BODY BUILDER MANUAL

FOR

2016 CHEVROLET SILVERADO/GMC SIERRA

ELECTRICAL SECTION

Revision 1.1

www.gmupfitter.com

October 12, 2015

GM UPFITTER INTEGRATION

Note to User:
As part of our mission to provide an up-to-date website that includes detailed Body Builder Manuals, Technical Bulletins, and Best Practice Manuals, we are now using sectional excerpts directly from the General Motors Service Information publications for our Electrical Body Builder Manuals.

You will note that the section numbers are non-sequential as we have provided only those that are believed to be the most pertinent to the Upfitter community and best suited to their needs.*

This new usage of the Service Information provides the opportunity for us to remain consistent with the changes that take place throughout the model year and to provide you updated information in a more timely fashion.

**** If you would like to have access to all of the electrical Service Information, please apply for a subscription from ACDelco at http://acdelcotechconnect.com/html/tss_tech_esi.jsp***

General Information

General Information

Introduction

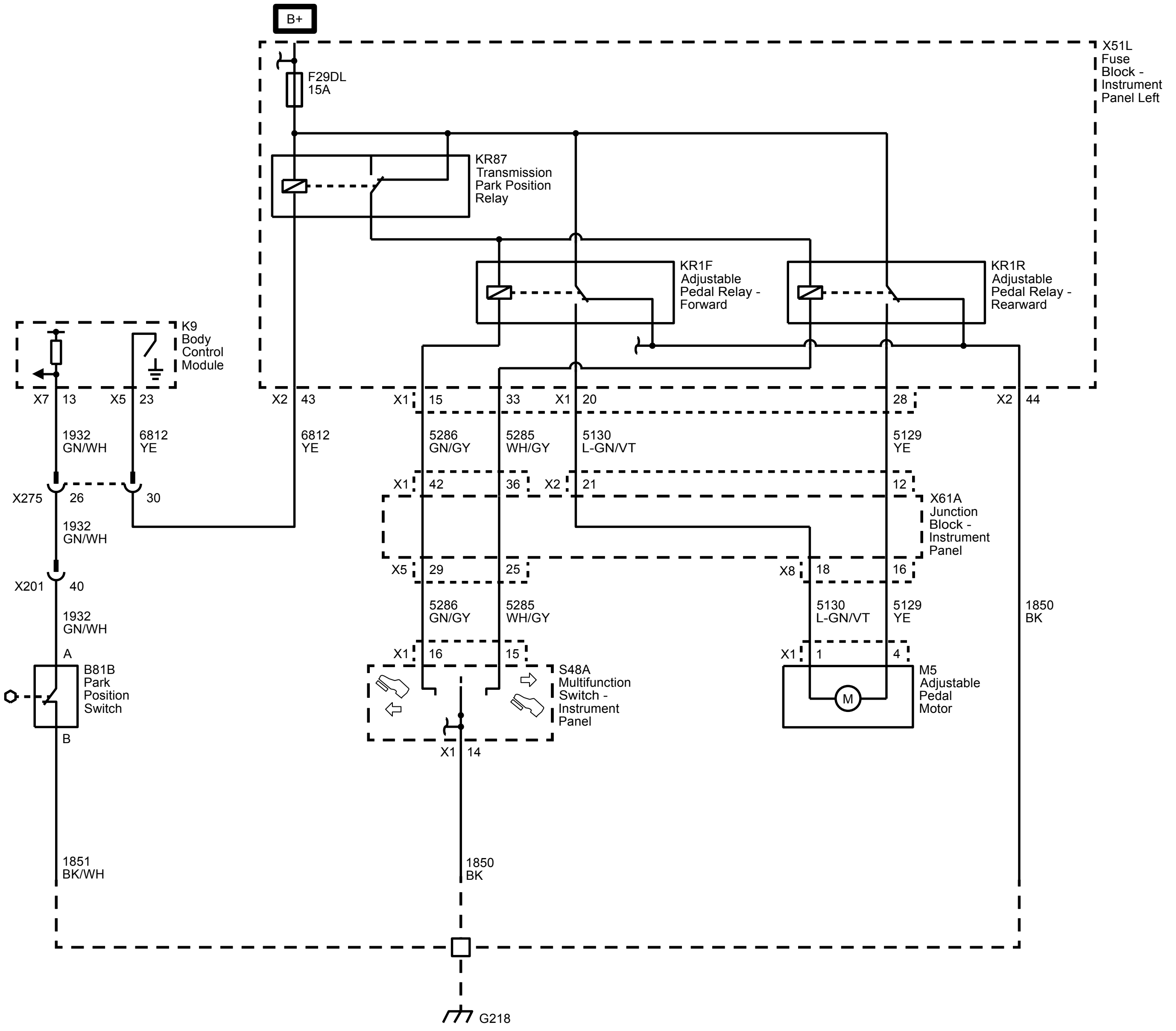
Body Systems

Adjustable Pedals

Schematic and Routing Diagrams

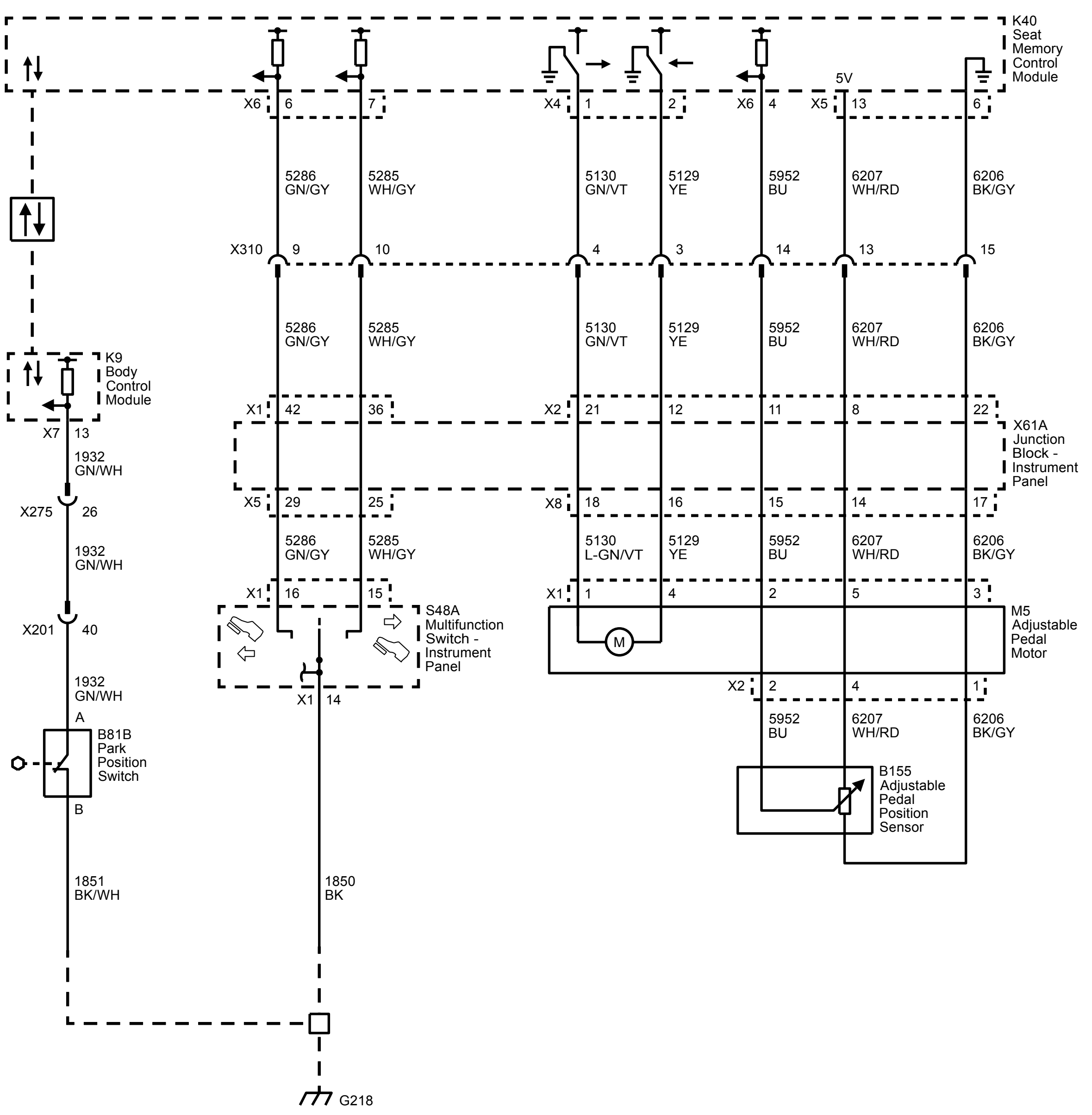
Adjustable Pedal Schematics

Adjustable Pedals (without A45)


B+
F29DL
15A
X51L
Fuse
Block -
Instrument
Panel Left
KR87
Transmission
Park Position
Relay
KR1F
Adjustable
Pedal Relay -
Forward
KR1R
Adjustable
Pedal Relay -
Rearward
K9
Body
Control
Module
X7 13
X5 23
X2 43
X1 15
33
X1 20
28
X2 44
1932
GN/WH
6812
YE
6812
YE
5286
GN/GY
5285
WH/GY
5130
L-GN/VT
5129
YE
X275 26
30
X1 42
36
X2 21
12
X61A
Junction
Block -
Instrument
Panel
X5 29
25
X8 18
16
1932
GN/WH
X201 40
1932
GN/WH
5286
GN/GY
5285
WH/GY
5130
L-GN/VT
5129
YE
1850
BK
A
B81B
Park
Position
Switch
B
X1 16
15
S48A
Multifunction
Switch -
Instrument
Panel
X1 14
X1 1
4
M
M5
Adjustable
Pedal
Motor
1851
BK/WH
1850
BK
G218

LOC
DESC

Adjustable Pedals (A45)


K40
Seat
Memory
Control
Module
X6 6 7
X4 1 2
X6 4
X5 5V 13
6
5286
GN/GY
5285
WH/GY
5130
GN/VT
5129
YE
5952
BU
6207
WH/RD
6206
BK/GY
X310 9 10 4 3 14 13 15
5286
GN/GY
5285
WH/GY
5130
GN/VT
5129
YE
5952
BU
6207
WH/RD
6206
BK/GY
K9
Body
Control
Module
X7 13
1932
GN/WH
X275 26
1932
GN/WH
X201 40
1932
GN/WH
A
B81B
Park
Position
Switch
B
1851
BK/WH
X1 42 36
X2 21 12 11 8 22
X61A
Junction
Block -
Instrument
Panel
X5 29 25
X8 18 16 15 14 17
5286
GN/GY
5285
WH/GY
5130
L-GN/VT
5129
YE
5952
BU
6207
WH/RD
6206
BK/GY
X1 16 15
S48A
Multifunction
Switch -
Instrument
Panel
X1 14
1850
BK
X1 1 4 2 5 3
M
M5
Adjustable
Pedal
Motor
X2 2 4 1
5952
BU
6207
WH/RD
6206
BK/GY
B155
Adjustable
Pedal
Position
Sensor
G218

Description and Operation

Adjustable Pedals Description and Operation (Without A45)

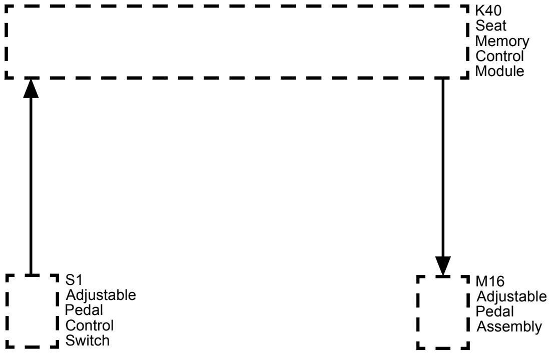
The adjustable pedals system is controlled by the adjustable pedals switch and the adjustable pedals relay and operation can occur only while the transmission selector lever is in the park position. The adjustable pedals assembly is moved forward or rearward by a motor which is fixed to the brake pedal actuator with a drive cable to the accelerator pedal actuator. In an inactive state both of the outputs to the motor are closed to ground. The adjustable pedals switch controls the adjustable pedals relay by applying battery voltage to one of the coils. The adjustable pedals motor is bidirectional and the direction of the pedal assembly travel is determined by which of the relay output circuits is switched to battery positive voltage while the other remains grounded. The adjustable pedals system uses the same motor and sensor assembly even when it is not equipped with the memory seats. The adjustable pedals position sensor is not used and does not have any circuits connected. The adjustable pedals position manually controlled by activating the switch in the forward or rearward direction until the desired position is reached.

Adjustable Pedals Description and Operation (With A45)

Adjustable Pedals System Components

The adjustable pedals system consists of the following components:

- The multifunction switch – instrument panel
- The seat memory control module
- The adjustable pedal motor
- The adjustable pedal position sensor



Adjustable Pedals System Operation

The adjustable pedals are not operable when the cruise control is engaged.

The adjustable pedal system is controlled by the seat memory control module. The adjustable pedals are moved forward or backward by a motor which is fastened to the brake pedal assembly with drive cables to the brake and accelerator pedal actuators.

The adjustable pedal motor is controlled by the seat memory control module through two motor control circuits. In an inactive state both control circuits are closed to ground within the module. The seat memory control module drives the adjustable pedal motor in the forward or rearward direction by closing the appropriate control circuit to battery voltage. The adjustable pedal motor is bidirectional and the direction of the pedal assembly travel is determined by which of the motor control circuits is switched to battery voltage while the other remains grounded.

The adjustable pedal forward and rearward switches are inputs to the module. Battery voltage is supplied to the switch from the seat memory control module. When the switch is operated to the forward or rearward direction the forward or rearward switch signal circuit is closed to the battery voltage circuit. Battery voltage on a switch signal circuit indicates to the seat memory control module that the switch is active.

The seat memory control module monitors the locations of the adjustable pedals using the adjustable pedal position sensor. The position sensor is supplied with a 5 V reference and ground circuit from the seat memory control module. The position sensor signal circuit is referenced from ground within the module. The position sensor signal circuit voltage levels are used by the seat memory control module to determine the positions of the adjustable pedals when storing or recalling memory position settings.

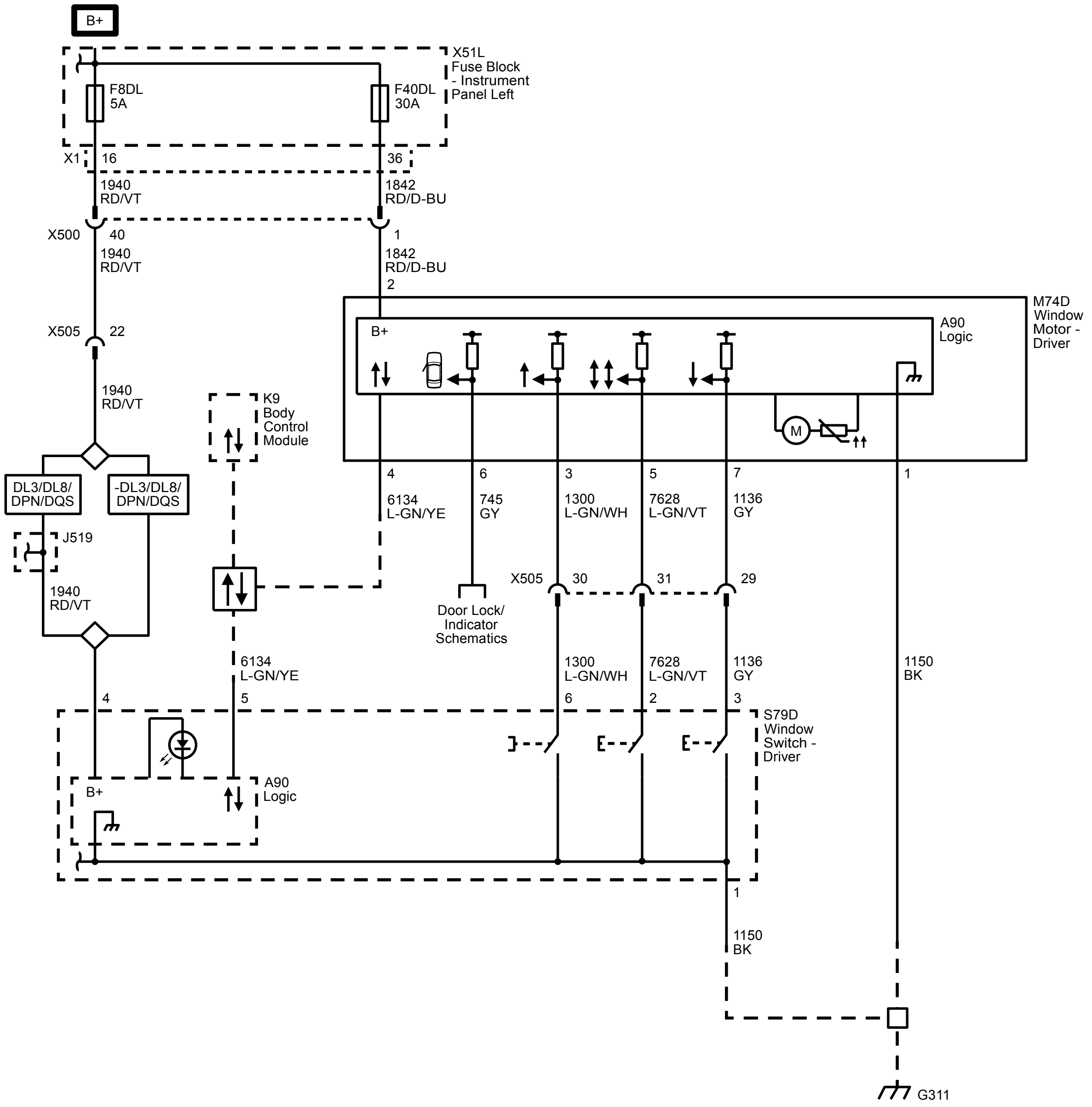
Body Systems

Fixed and Moveable Windows

Schematic and Routing Diagrams

Moveable Window Schematics

Driver Door (A31)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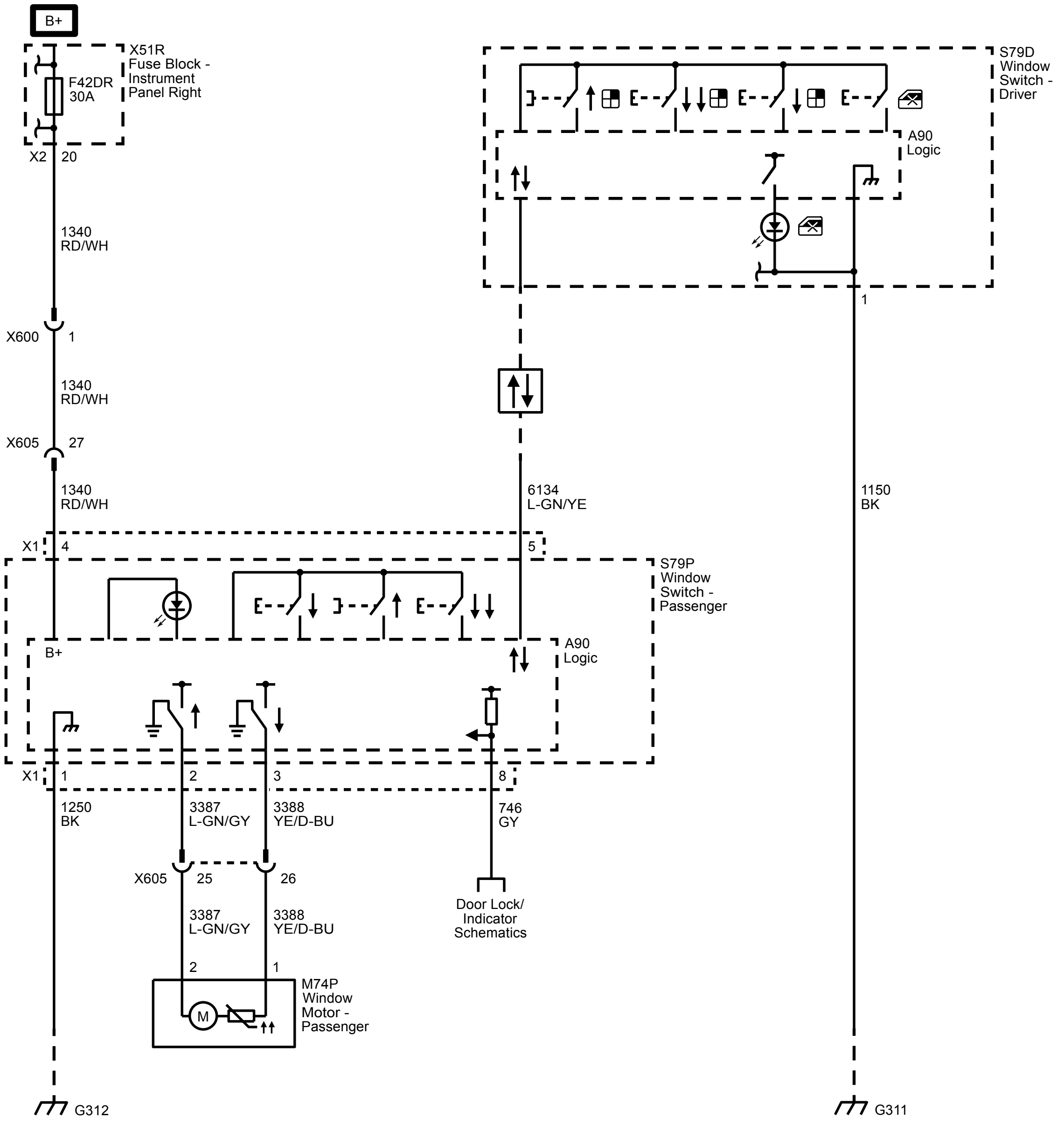
X51L
Fuse Block
- Instrument
Panel Left
F8DL
5A
F40DL
30A
X1
16
36
1940
RD/VT
1842
RD/D-BU
X500
40
1
1940
RD/VT
1842
RD/D-BU
2
X505
22
1940
RD/VT
K9
Body
Control
Module
DL3/DL8/
DPN/DQS
-DL3/DL8/
DPN/DQS
J519
1940
RD/VT
B+
A90
Logic
M74D
Window
Motor -
Driver
M
4
6
3
5
7
1
6134
L-GN/YE
745
GY
1300
L-GN/WH
7628
L-GN/VT
1136
GY
Door Lock/
Indicator
Schematics
X505
30
31
29
6134
L-GN/YE
1300
L-GN/WH
7628
L-GN/VT
1136
GY
1150
BK
4
5
6
2
3
S79D
Window
Switch -
Driver
B+
A90
Logic
1
1150
BK
G311

Passenger Door (A31)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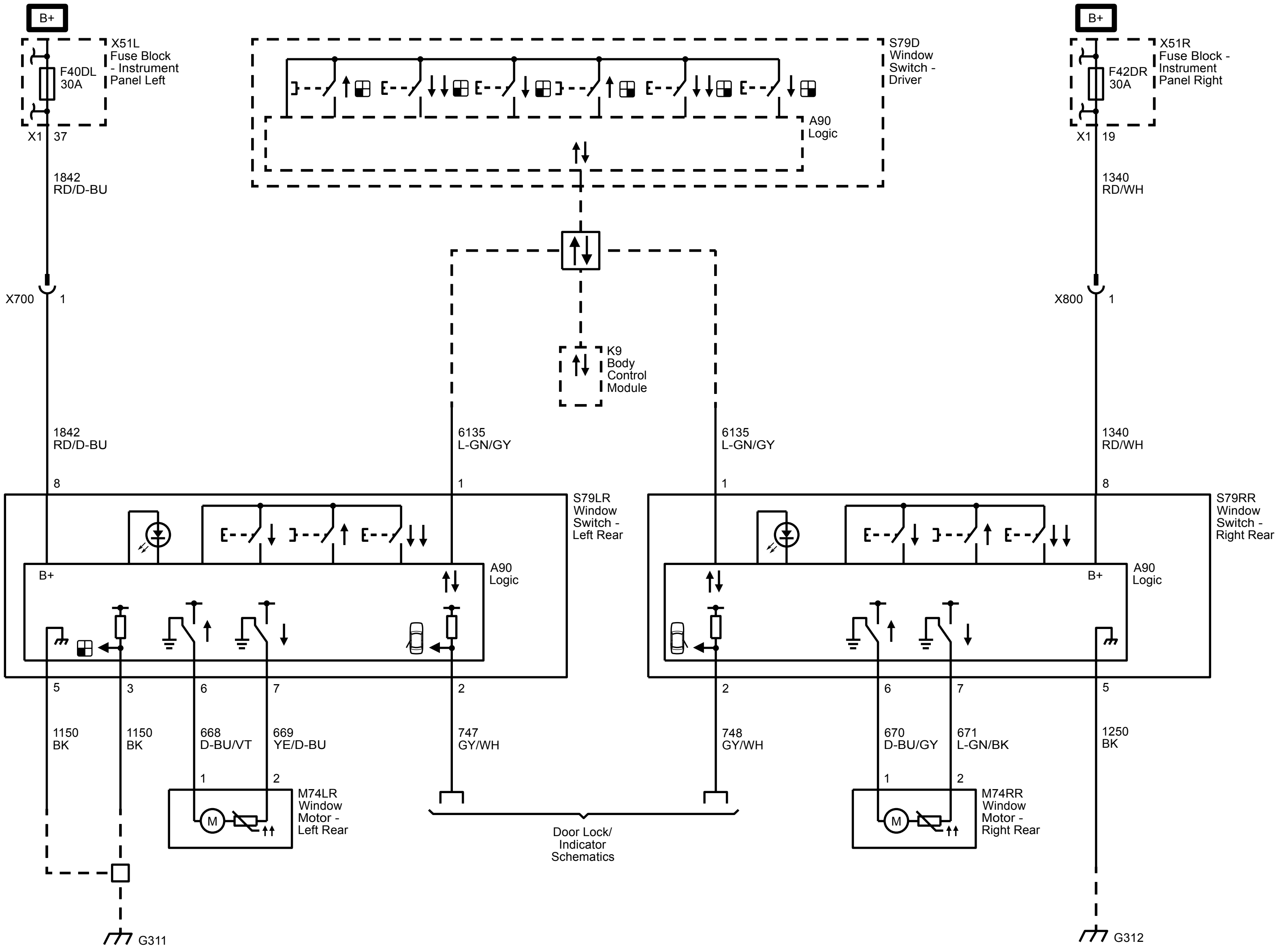
X51R
Fuse Block -
Instrument
Panel Right
F42DR
30A
X2
20
1340
RD/WH
X600
1
1340
RD/WH
X605
27
1340
RD/WH
S79D
Window
Switch -
Driver
A90
Logic
1
6134
L-GN/YE
1150
BK
X1
4
5
S79P
Window
Switch -
Passenger
A90
Logic
B+
X1
1
2
3
8
1250
BK
3387
L-GN/GY
3388
YE/D-BU
746
GY
X605
25
26
3387
L-GN/GY
3388
YE/D-BU
Door Lock/
Indicator
Schematics
2
1
M74P
Window
Motor -
Passenger
M
G312
G311

LOC
DESC

Rear Doors (Extended or Crew Cab)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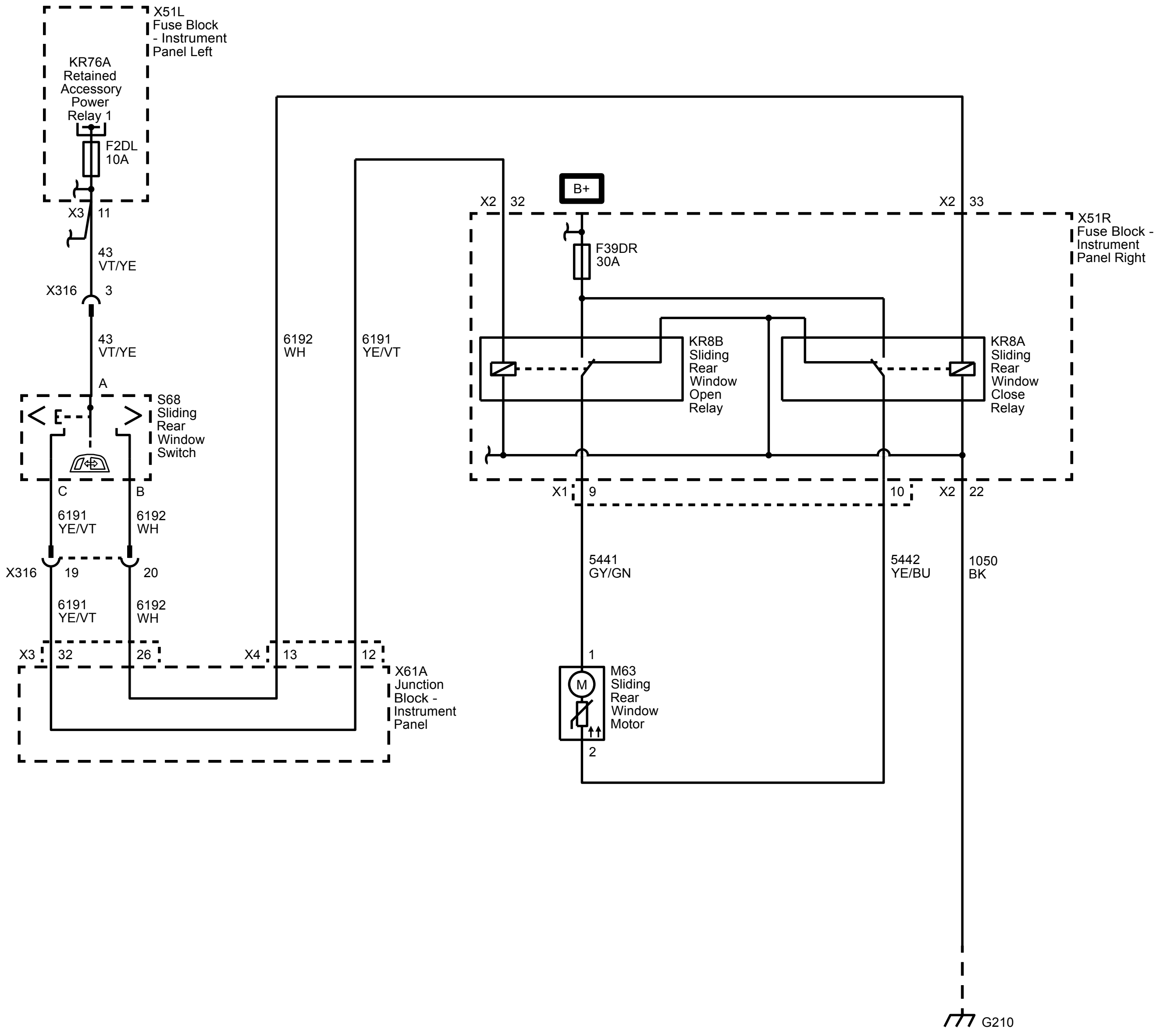
X51L
Fuse Block
- Instrument
Panel Left
F40DL
30A
X1
37
1842
RD/D-BU
X700
1
1842
RD/D-BU
8
S79D
Window
Switch -
Driver
A90
Logic
K9
Body
Control
Module
6135
L-GN/GY
1
6135
L-GN/GY
1
B+
X51R
Fuse Block -
Instrument
Panel Right
F42DR
30A
X1
19
1340
RD/WH
X800
1
1340
RD/WH
8
S79LR
Window
Switch -
Left Rear
A90
Logic
B+
S79RR
Window
Switch -
Right Rear
A90
Logic
B+
5
3
6
7
2
2
6
7
5
1150
BK
1150
BK
668
D-BU/VT
669
YE/D-BU
747
GY/WH
748
GY/WH
670
D-BU/GY
671
L-GN/BK
1250
BK
1
2
M
M74LR
Window
Motor -
Left Rear
Door Lock/
Indicator
Schematics
1
2
M
M74RR
Window
Motor -
Right Rear
G311
G312

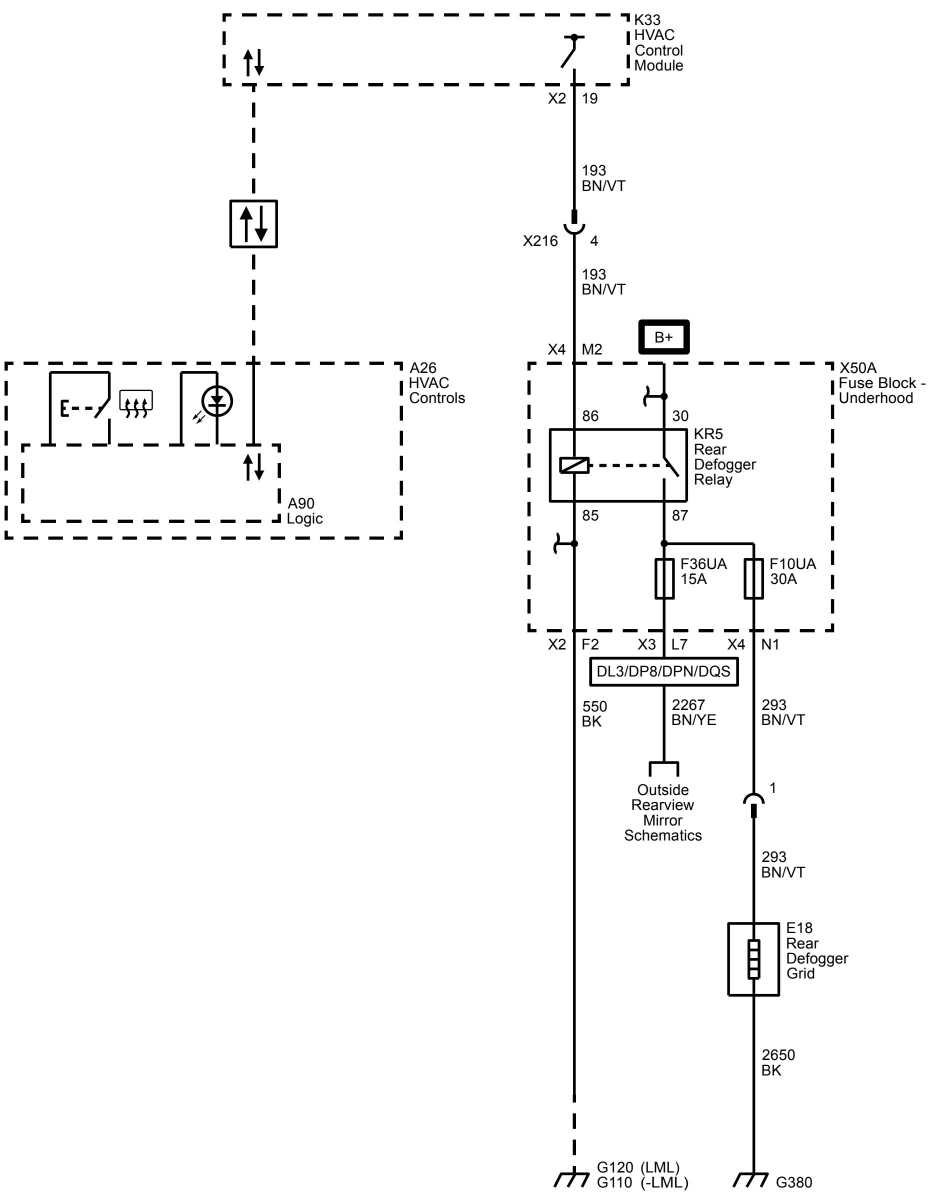
Rear Sliding Window (A48)

LOC
DESC


X51L
Fuse Block - Instrument Panel Left
KR76A Retained Accessory Power Relay 1
F2DL
10A
X3
11
43
VT/YE
X316
3
43
VT/YE
A
S68 Sliding Rear Window Switch
C
B
6191
YE/VT
6192
WH
X316
19
20
6191
YE/VT
6192
WH
X3
32
26
X4
13
12
X61A Junction Block - Instrument Panel
6192
WH
6191
YE/VT
B+
X2
32
F39DR
30A
X2
33
X51R Fuse Block - Instrument Panel Right
KR8B Sliding Rear Window Open Relay
KR8A Sliding Rear Window Close Relay
X1
9
10
X2
22
5441
GY/GN
5442
YE/BU
1050
BK
1
M
M63 Sliding Rear Window Motor
2
G210

Defogger Schematics

Defogger


K33
HVAC
Control
Module
X2 19
193
BN/VT
X216 4
193
BN/VT
B+
X4 M2
A26
HVAC
Controls
A90
Logic
X50A
Fuse Block -
Underhood
86
30
KR5
Rear
Defogger
Relay
85
87
F36UA
15A
F10UA
30A
X2 F2
X3 L7
X4 N1
DL3/DP8/DPN/DQS
550
BK
2267
BN/YE
293
BN/VT
Outside
Rearview
Mirror
Schematics
1
293
BN/VT
E18
Rear
Defogger
Grid
2650
BK
G120 (LML)
G110 (-LML)
G380

Description and Operation

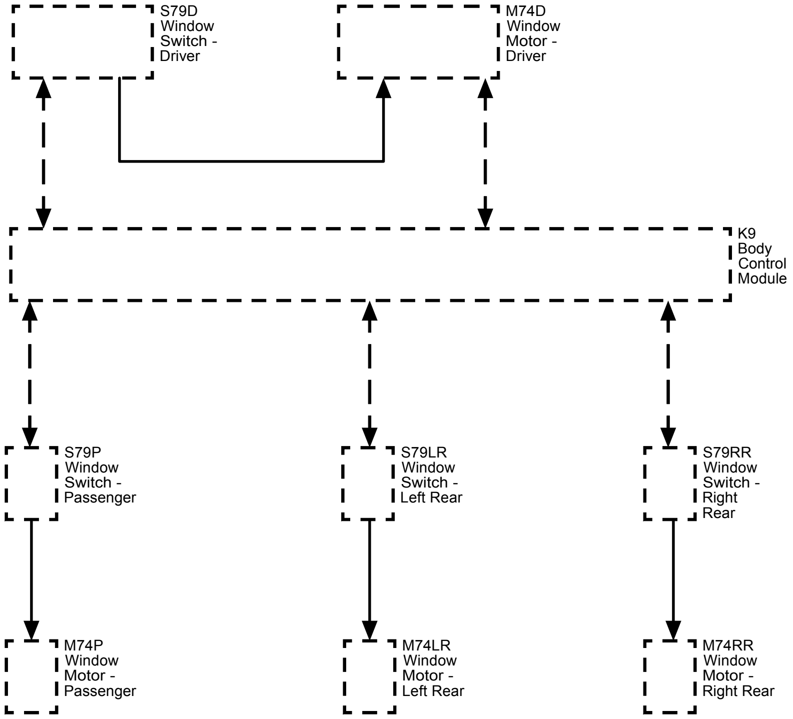
Power Windows Description and Operation

Power Windows System Components

The power window system consists of the following components:

- Driver window switch
- Passenger window switch
- Left rear window switch (Extended Cab and Crew Cab)
- Right rear window switch (Extended Cab and Crew Cab)
- Window motors in each of the doors
- Sliding rear window switch
- Sliding rear window relays
- Sliding rear window motor
- 30A Fuse
- Body control module (BCM)

14 Power Windows AXG-AER-AEQ Block Diagram


S79D Window Switch - Driver
M74D Window Motor - Driver
K9 Body Control Module
S79P Window Switch - Passenger
S79LR Window Switch - Left Rear
S79RR Window Switch - Right Rear
M74P Window Motor - Passenger
M74LR Window Motor - Left Rear
M74RR Window Motor - Right Rear

Driver Express Up and Express Down Power Window

The driver door contains a window motor is smart motor that will detect excessive resistance while performing the express up function and automatically reverse direction to prevent injury to any occupants that may become trapped between the closing window and the door frame. The automatic reverse safety feature can be overridden by pulling and holding the window switch.

The logic circuit within the window motor monitors the up, down and express signal circuits which are normally equal to B+ voltage. When a switch is used on the window switch, the contacts close causing a voltage drop within the appropriate signal circuit. The window motor will detect the voltage drop and will command the window to move in the direction requested.

The driver window switch communicates to the BCM by a serial data circuit. When the driver wishes to control the passenger window, the driver will use the appropriate switch on the driver window switch. When this switch is used, a serial data message is sent to the BCM requesting the passenger window motor command, the BCM will then send a serial data message to the passenger window motor which will then move in the direction requested

Passenger, Left Rear and Right Rear Express Down Power Windows

For the passenger, right rear and left rear doors, when their window switch is pressed in the down position, battery positive voltage is applied to their respective window motor control circuit and ground to the other window motor control circuit causing that window to open. When the individual window switch is pulled in the up position, voltage and ground is applied to the window motor in the opposite direction causing that window to close. The return path to ground is supplied through the inactive control circuit being normally grounded through the window switch.

Each passenger and rear window switch communicates to the BCM by a serial data circuit. When the driver wishes to control the passenger, left rear or right rear window, the driver will use the appropriate switch on the driver window switch. When this switch is used, a serial data message is sent to the BCM requesting a window motor command, the BCM will then send a serial data message to the appropriate door window switch which will then command that window to move in the direction requested.

Rear Window and Rear Door Lockout Operation (Extended Cab and Crew Cab)

The driver power window switch contains a window lockout switch, when the driver presses the window lockout switch, a serial data message is sent to the BCM which will send a disable command to the rear window motors, the rear window motors will then ignore all voltage drops in the window motor control circuits caused by using the rear window switches. The rear windows will still function normally from the switches on the driver window switch.

Power Sliding Rear Window

NOTE: Power window lockout switch disables left rear and right rear passenger window switches only and has no effect on the operation of the power sliding window switch.

The power sliding rear window motor is controlled from the rear window OPEN/CLOSE switch through OPEN and CLOSE relays. The OPEN/CLOSE switch is supplied voltage from the body control module accessory voltage output circuit. When the switch is pressed in the OPEN or CLOSED position the OPEN or CLOSED relay coil will be supplied accessory voltage and energized through the appropriate relay control circuit. While the OPEN and CLOSE relays are in a de-energized state both motor control circuits will be closed to ground. When one of the relays is energized its motor control circuit will be closed to the battery voltage supply circuit and the other motor control circuit will remain grounded through the de-energized relay.

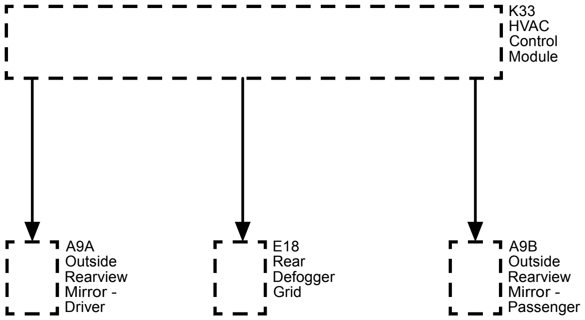
Rear Window Defogger Description and Operation

Rear Window Defogger System Components

The rear window defogger system consists of the following components:

- HVAC control module
- Rear defogger relay
- Rear defogger grid
- 40A fuse

Rear Window Defogger Block Diagram



Rear Window Defogger Operation

The rear defog control system utilizes a single zone backlight design, driven with a single relay configuration. Additionally, up to two outside rear view mirrors can be heated if equipped. A switch for the customer to control the system is provided within the HVAC control module, also included in the HVAC control module is an indicator to inform the customer with the current state of the system. The system is only operational when engine is running or during remote start.

Pressing the heated rear window switch on the HVAC control module causes the HVAC control module to provide voltage to the coil side of the rear defogger relay, this will energize the relay causing the relay switch contacts to close allowing B+ voltage to flow through the rear defogger grid control circuit to the rear defogger grid.

When the rear heated window switch is pressed and the engine is running, the rear defog control system will remain active for 10 minutes. After the initial cycle has lapsed, pressing the switch again will continue rear window defogger operation, but the cycle will only last 5 minutes.

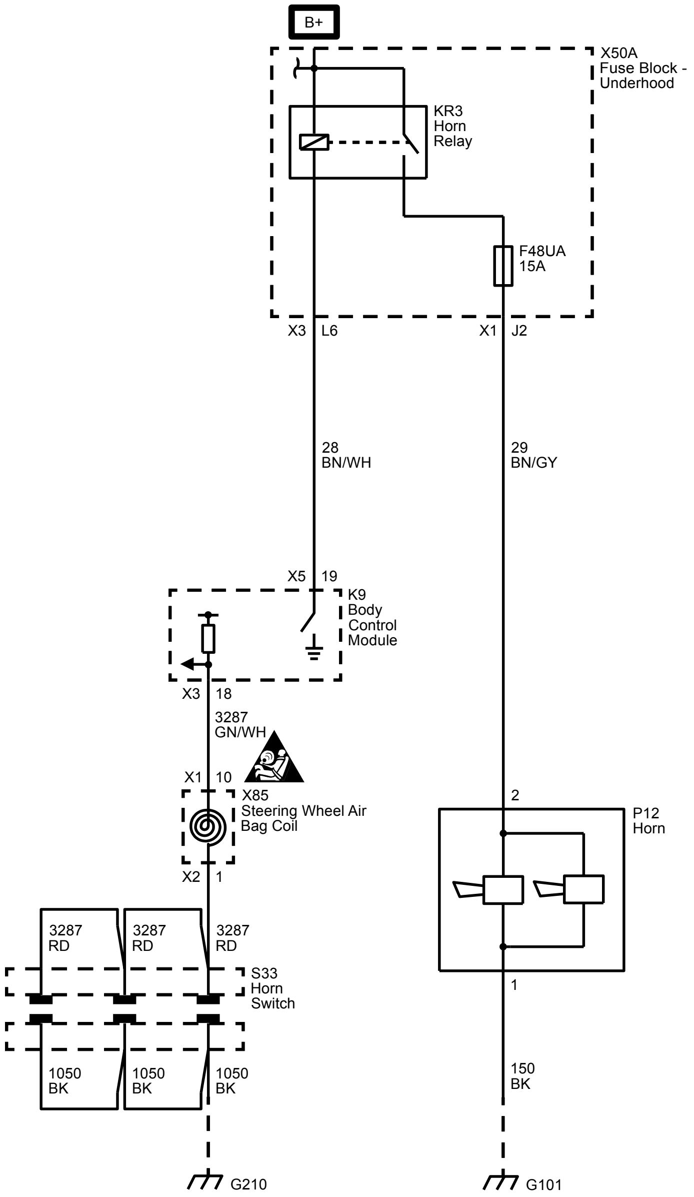
Body Systems

Horns

Schematic and Routing Diagrams

Horn Schematics

Horn


B+
X50A
Fuse Block - Underhood
KR3
Horn
Relay
F48UA
15A
X3
L6
X1
J2
28
BN/WH
29
BN/GY
X5
19
K9
Body
Control
Module
X3
18
3287
GN/WH
X1
10
X85
Steering Wheel Air
Bag Coil
X2
1
2
P12
Horn
1
3287
RD
3287
RD
3287
RD
S33
Horn
Switch
1050
BK
1050
BK
1050
BK
150
BK
G210
G101

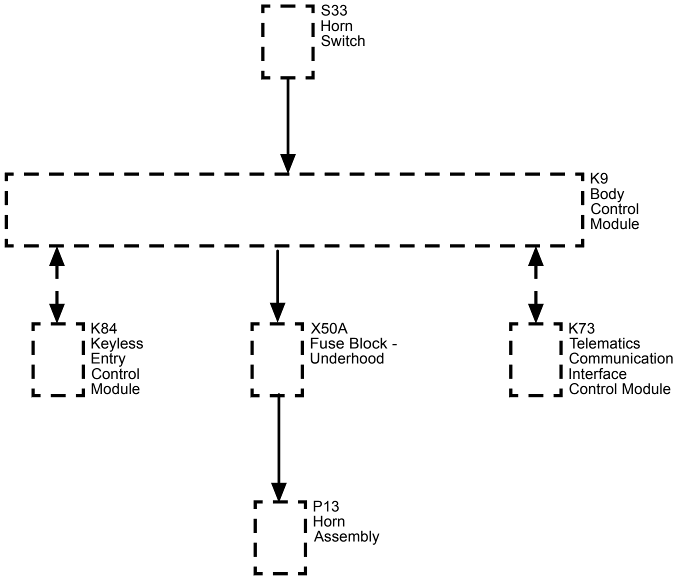
Description and Operation

Horns System Description and Operation

System Description

The horn system consists of the following components:

- HORN fuse
- Horn relay
- Horn switch
- Horn assembly
- Body control module (BCM)



System Operation

The vehicle horn system is activated under the following conditions:

- When the horn switch is depressed
- The BCM commands the horns ON under any of the following conditions:
  - When the content theft deterrent system detects a vehicle intrusion—For further information refer to Theft Systems Description and Operation.
  - When the panic button is depressed on the remote control door lock transmitter—For further information refer to Keyless Entry System Description and Operation.
  - When the keyless entry system is used to lock the vehicle, a horn chirp may sound to notify the driver that the vehicle has been locked. The notification feature may be enabled or disabled through personalization. For further information refer to Keyless Entry System Description and Operation.
  - When the OnStar® system is used to sound the horns if equipped—For further information, refer to OnStar Description and Operation.

Circuit Operation

Battery positive voltage is applied at all times to the horn relay coil and the horn relay switch. Pressing either of the horn switches applies ground to the horn relay control circuit. The BCM may also apply ground to the horn relay control circuit as described above. When the horn relay control circuit is grounded, the horn relay is energized and battery positive voltage is applied to the horns through the horn control circuit. The horns sound as long as ground is applied to the horn relay control circuit.

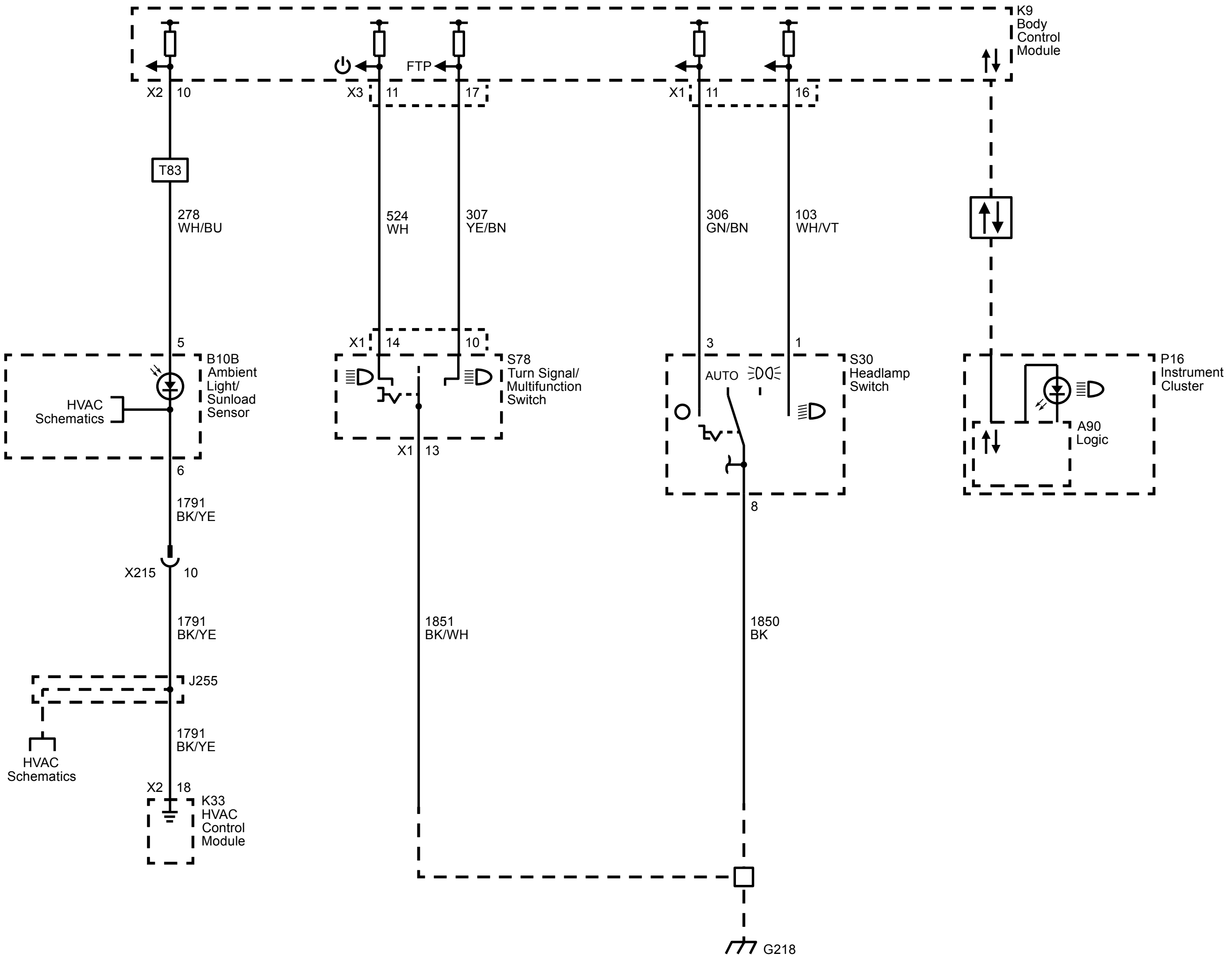
Body Systems

Lighting

Schematic and Routing Diagrams

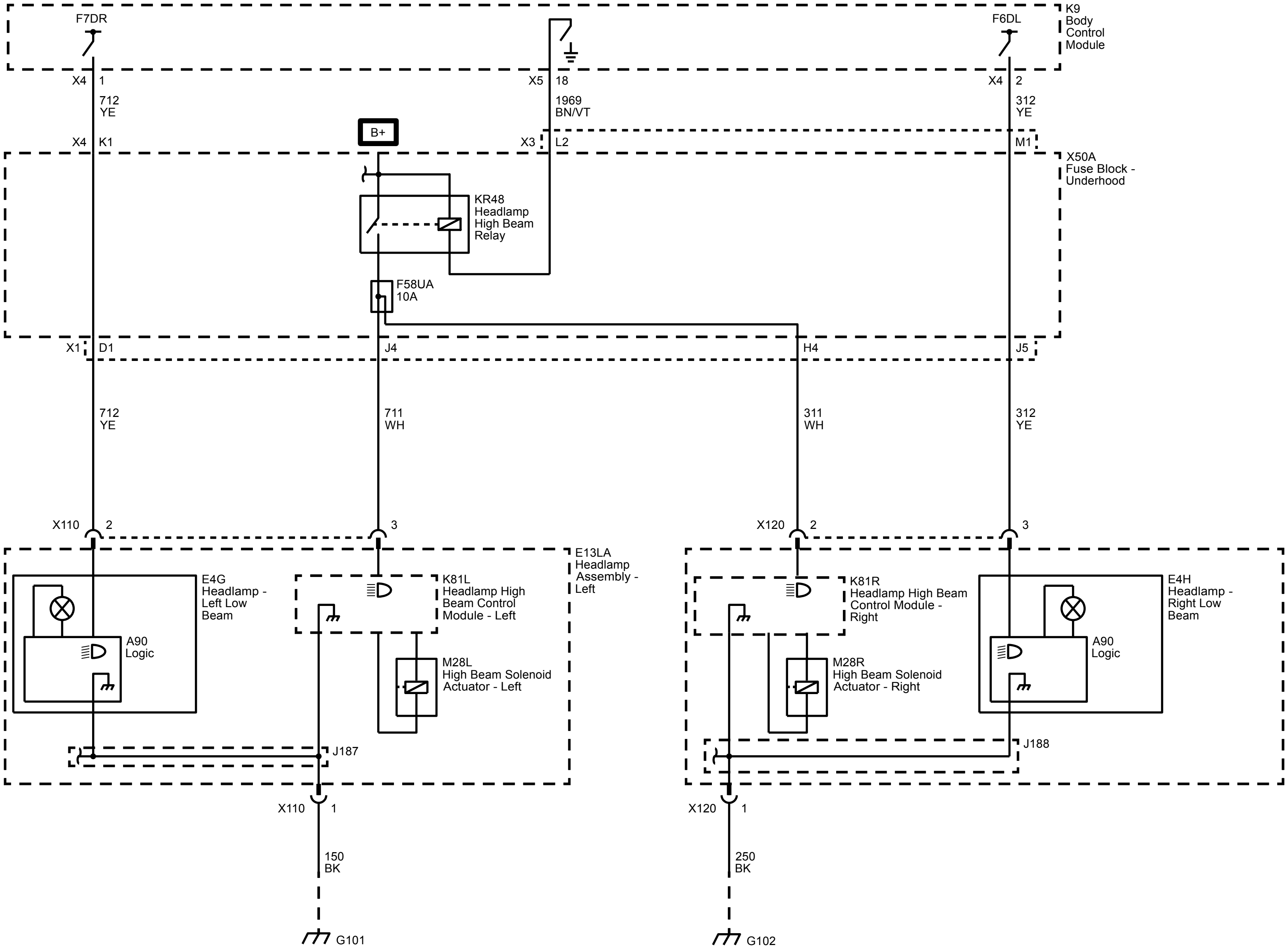
Headlights/Daytime Running Lights (DRL) Schematics

Controls

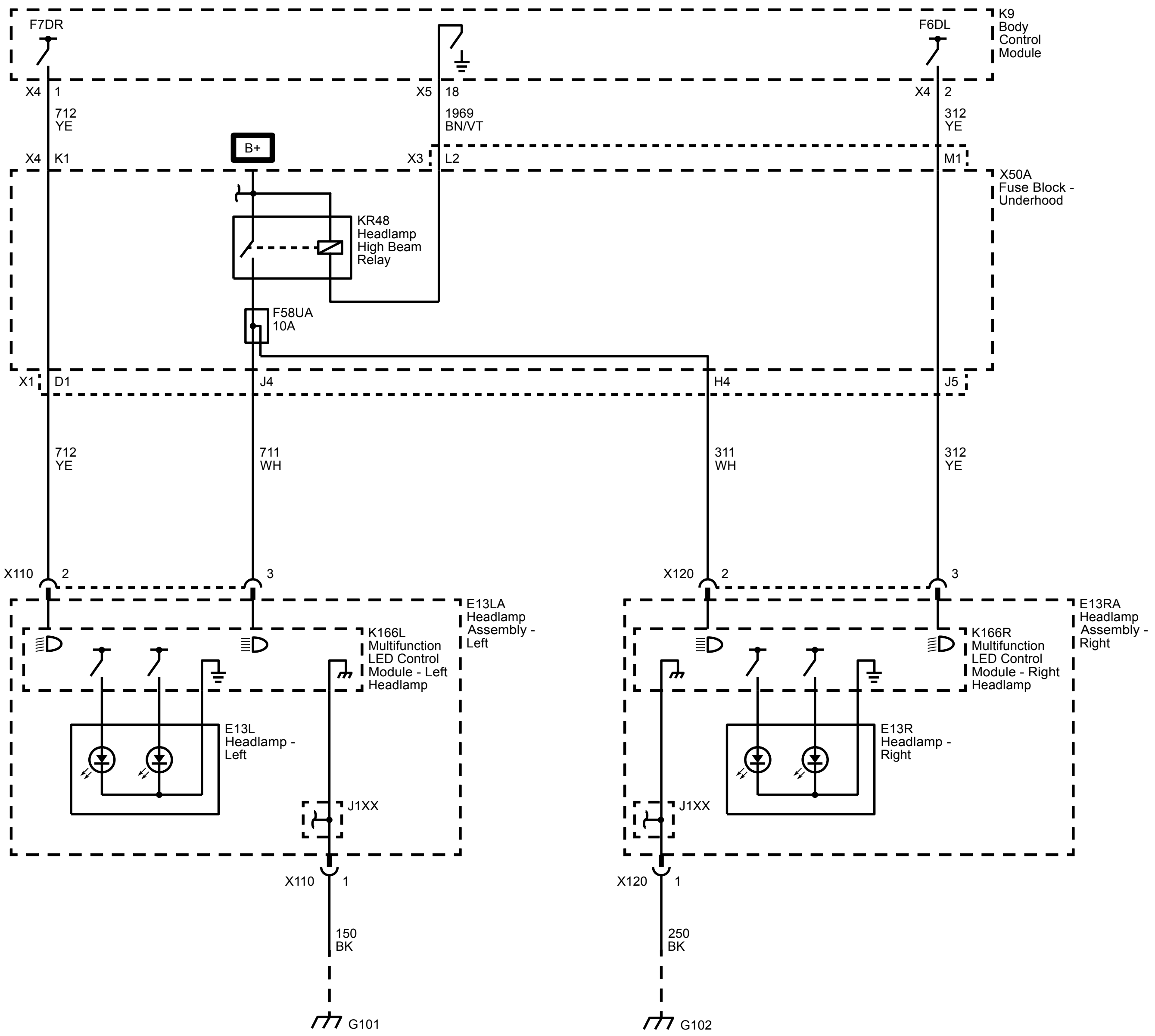


K9
Body
Control
Module
X2
10
⏻
X3
11
FTP
17
X1
11
16
T83
278
WH/BU
524
WH
307
YE/BN
306
GN/BN
103
WH/VT
5
B10B
Ambient
Light/
Sunload
Sensor
HVAC
Schematics
6
X1
14
10
S78
Turn Signal/
Multifunction
Switch
X1
13
3
1
S30
Headlamp
Switch
AUTO
8
P16
Instrument
Cluster
A90
Logic
1791
BK/YE
X215
10
1791
BK/YE
1851
BK/WH
1850
BK
J255
HVAC
Schematics
1791
BK/YE
X2
18
K33
HVAC
Control
Module
G218

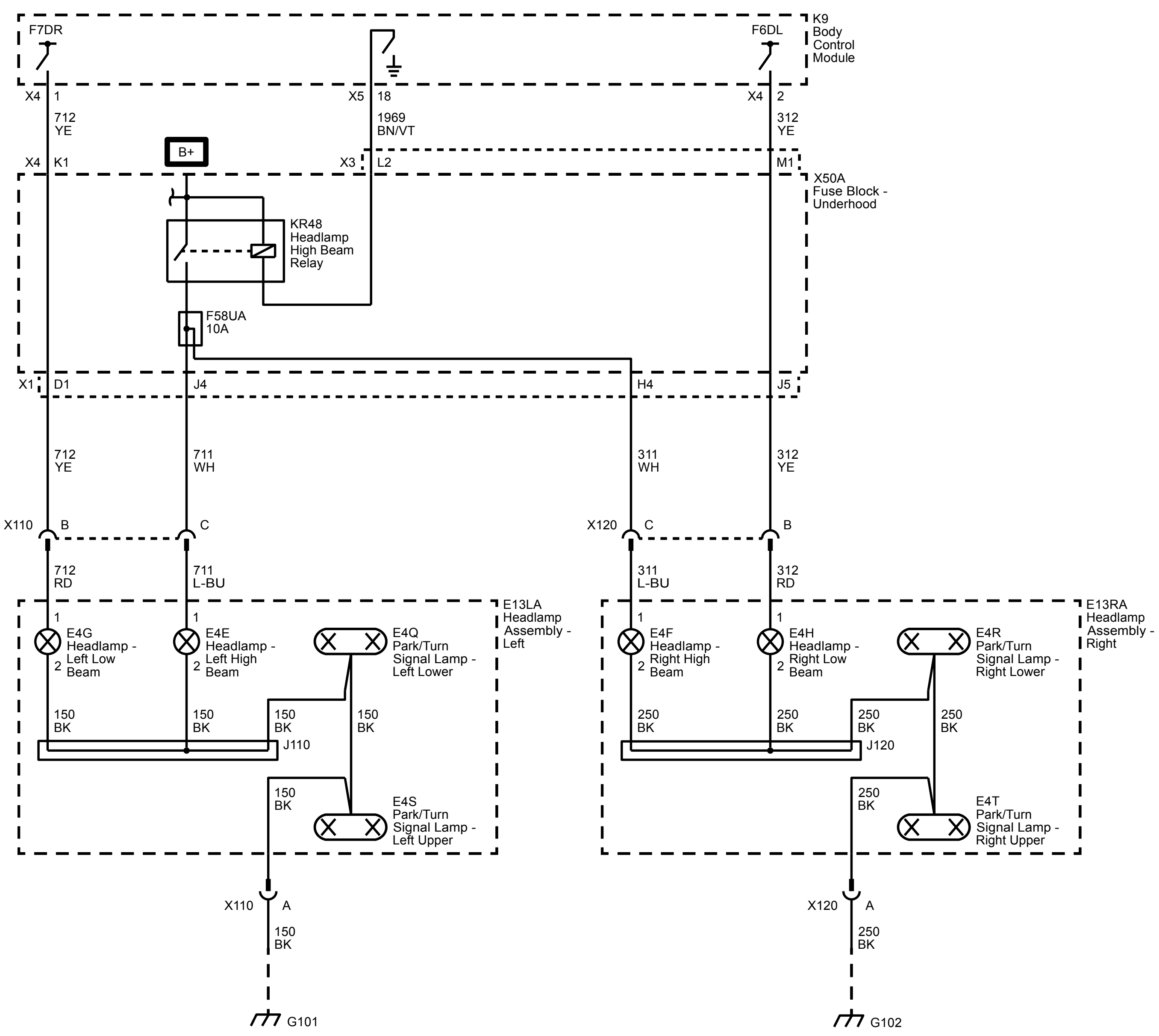
Headlamps (1500 with X88 with T4F)


F7DR
F6DL
K9
Body
Control
Module
X4
1
X5
18
X4
2
712
YE
1969
BN/VT
312
YE
B+
X4
K1
X3
L2
M1
X50A
Fuse Block -
Underhood
KR48
Headlamp
High Beam
Relay
F58UA
10A
X1
D1
J4
H4
J5
712
YE
711
WH
311
WH
312
YE
X110
2
3
X120
2
3
E13LA
Headlamp
Assembly -
Left
E4G
Headlamp -
Left Low
Beam
A90
Logic
K81L
Headlamp High
Beam Control
Module - Left
M28L
High Beam Solenoid
Actuator - Left
J187
E13RA
Headlamp
Assembly -
Right
K81R
Headlamp High Beam
Control Module -
Right
M28R
High Beam Solenoid
Actuator - Right
E4H
Headlamp -
Right Low
Beam
A90
Logic
J188
X110
1
150
BK
G101
X120
1
250
BK
G102

Headlamps (1500 with X88 without T4F)

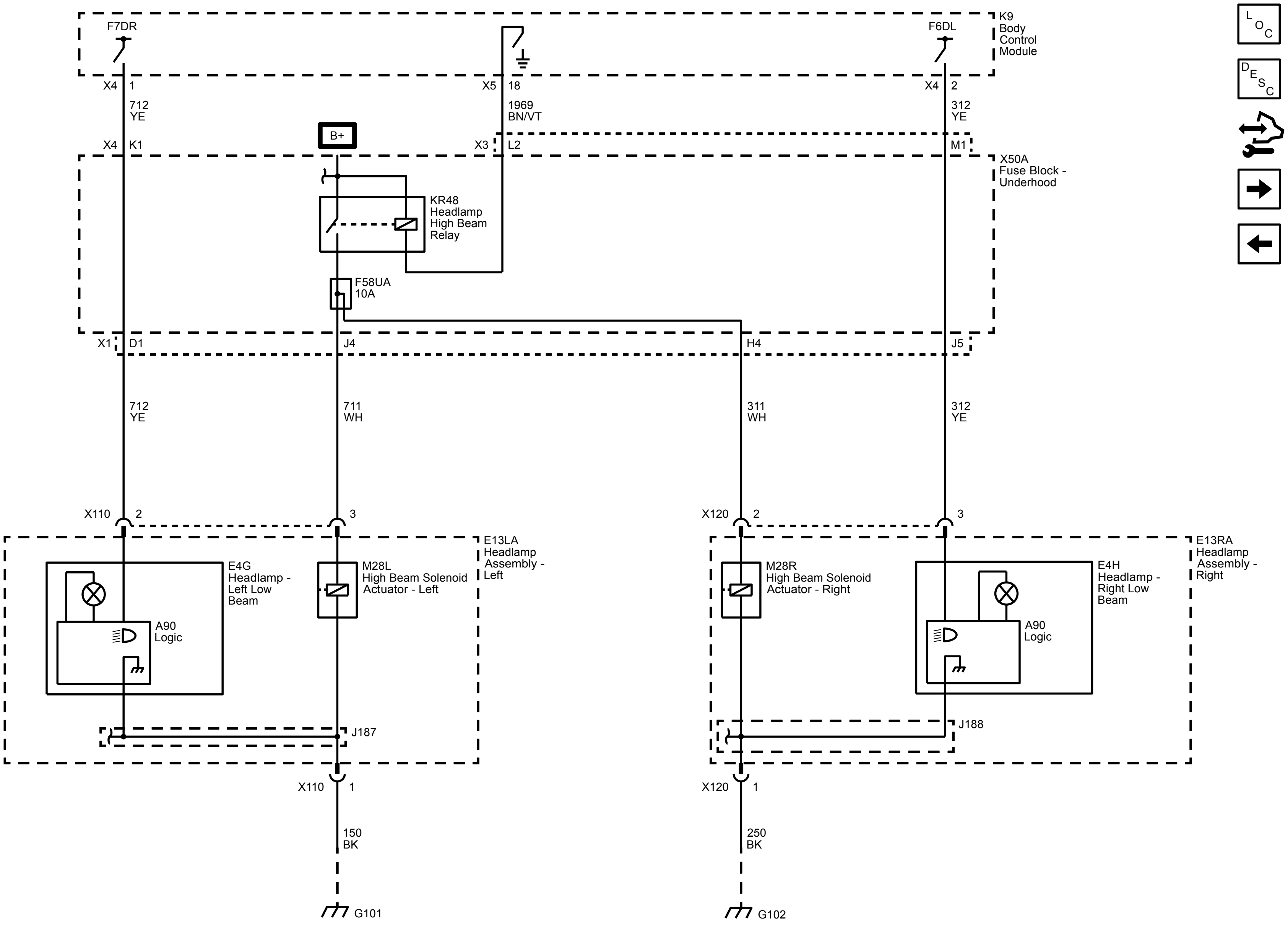

F7DR
F6DL
K9
Body
Control
Module
X4 1
X5 18
X4 2
712
YE
1969
BN/VT
312
YE
X4 K1
B+
X3 L2
M1
X50A
Fuse Block -
Underhood
KR48
Headlamp
High Beam
Relay
F58UA
10A
X1 D1
J4
H4
J5
712
YE
711
WH
311
WH
312
YE
X110 2
3
X120 2
3
E13LA
Headlamp
Assembly -
Left
K166L
Multifunction
LED Control
Module - Left
Headlamp
E13L
Headlamp -
Left
J1XX
E13RA
Headlamp
Assembly -
Right
K166R
Multifunction
LED Control
Module - Right
Headlamp
E13R
Headlamp -
Right
J1XX
X110 1
150
BK
G101
X120 1
250
BK
G102

Headlamps (2500/3500 with X88)


F7DR
F6DL
K9
Body
Control
Module
X4 1
712
YE
X5 18
1969
BN/VT
X4 2
312
YE
X4 K1
B+
X3 L2
M1
X50A
Fuse Block -
Underhood
KR48
Headlamp
High Beam
Relay
F58UA
10A
X1 D1
J4
H4
J5
712
YE
711
WH
311
WH
312
YE
X110 B
C
X120 C
B
712
RD
711
L-BU
311
L-BU
312
RD
E13LA
Headlamp
Assembly -
Left
1
E4G
Headlamp -
Left Low
Beam
2
1
E4E
Headlamp -
Left High
Beam
2
E4Q
Park/Turn
Signal Lamp -
Left Lower
150
BK
150
BK
150
BK
150
BK
J110
150
BK
E4S
Park/Turn
Signal Lamp -
Left Upper
E13RA
Headlamp
Assembly -
Right
1
E4F
Headlamp -
Right High
Beam
2
1
E4H
Headlamp -
Right Low
Beam
2
E4R
Park/Turn
Signal Lamp -
Right Lower
250
BK
250
BK
250
BK
250
BK
J120
250
BK
E4T
Park/Turn
Signal Lamp -
Right Upper
X110 A
150
BK
G101
X120 A
250
BK
G102

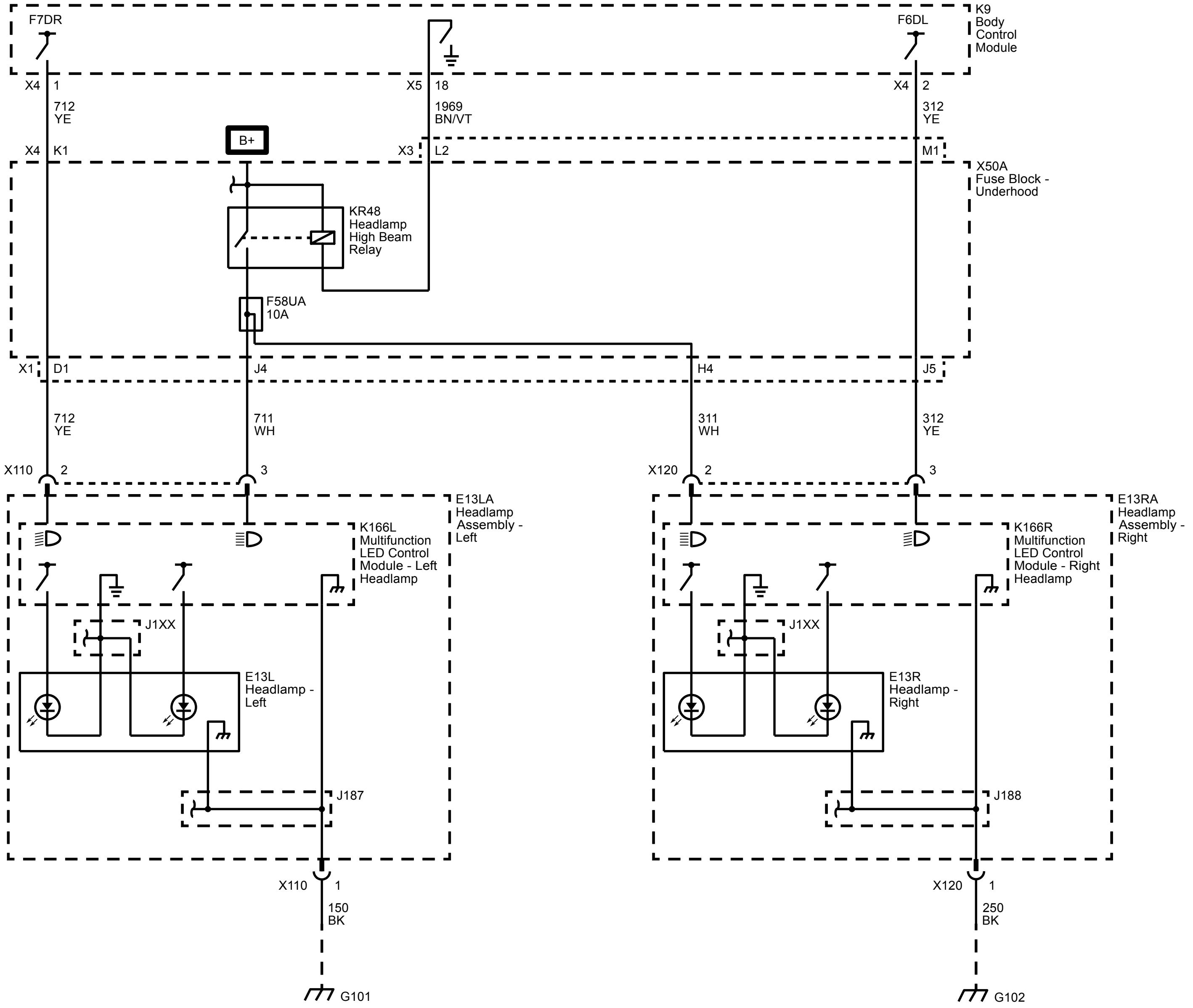
LOC
DESC

Headlamps (1500/Z88 and T4F)



K9
Body
Control
Module
F7DR
F6DL
X4 1
X5 18
X4 2
712
YE
1969
BN/VT
312
YE
X4 K1
X3 L2
M1
B+
X50A
Fuse Block -
Underhood
KR48
Headlamp
High Beam
Relay
F58UA
10A
X1 D1
J4
H4
J5
712
YE
711
WH
311
WH
312
YE
X110 2
3
X120 2
3
E13LA
Headlamp
Assembly -
Left
E4G
Headlamp -
Left Low
Beam
A90
Logic
M28L
High Beam Solenoid
Actuator - Left
J187
M28R
High Beam Solenoid
Actuator - Right
E4H
Headlamp -
Right Low
Beam
A90
Logic
E13RA
Headlamp
Assembly -
Right
J188
X110 1
X120 1
150
BK
250
BK
G101
G102

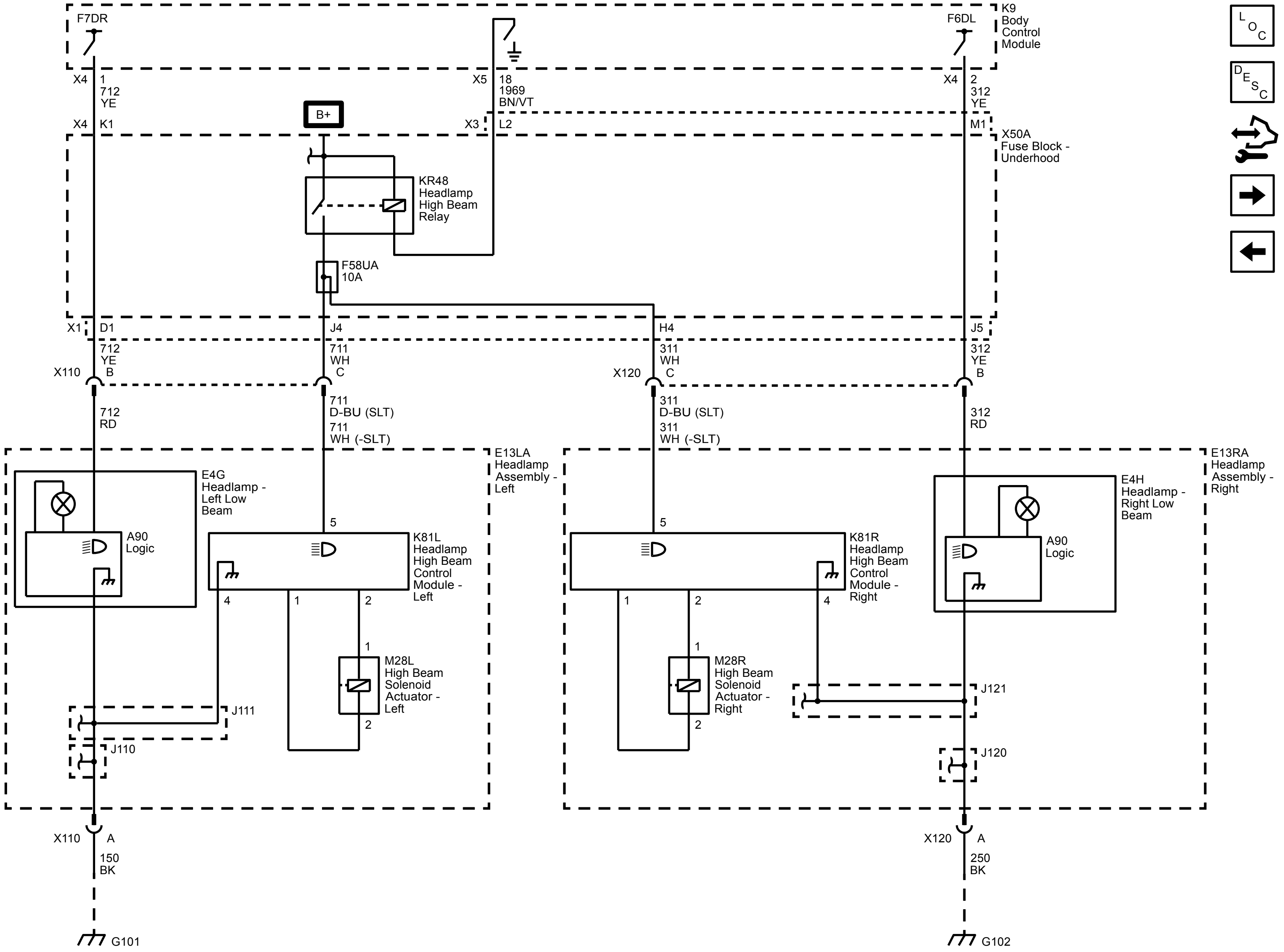
Headlamps (1500/Z88 without T4F)



F7DR
F6DL
K9
Body
Control
Module
X4 1
X5 18
X4 2
712
YE
1969
BN/VT
312
YE
X4 K1
B+
X3 L2
M1
X50A
Fuse Block -
Underhood
KR48
Headlamp
High Beam
Relay
F58UA
10A
X1 D1
J4
H4
J5
712
YE
711
WH
311
WH
312
YE
X110 2
3
X120 2
3
E13LA
Headlamp
Assembly -
Left
K166L
Multifunction
LED Control
Module - Left
Headlamp
J1XX
E13L
Headlamp -
Left
J187
E13RA
Headlamp
Assembly -
Right
K166R
Multifunction
LED Control
Module - Right
Headlamp
J1XX
E13R
Headlamp -
Right
J188
X110 1
150
BK
G101
X120 1
250
BK
G102

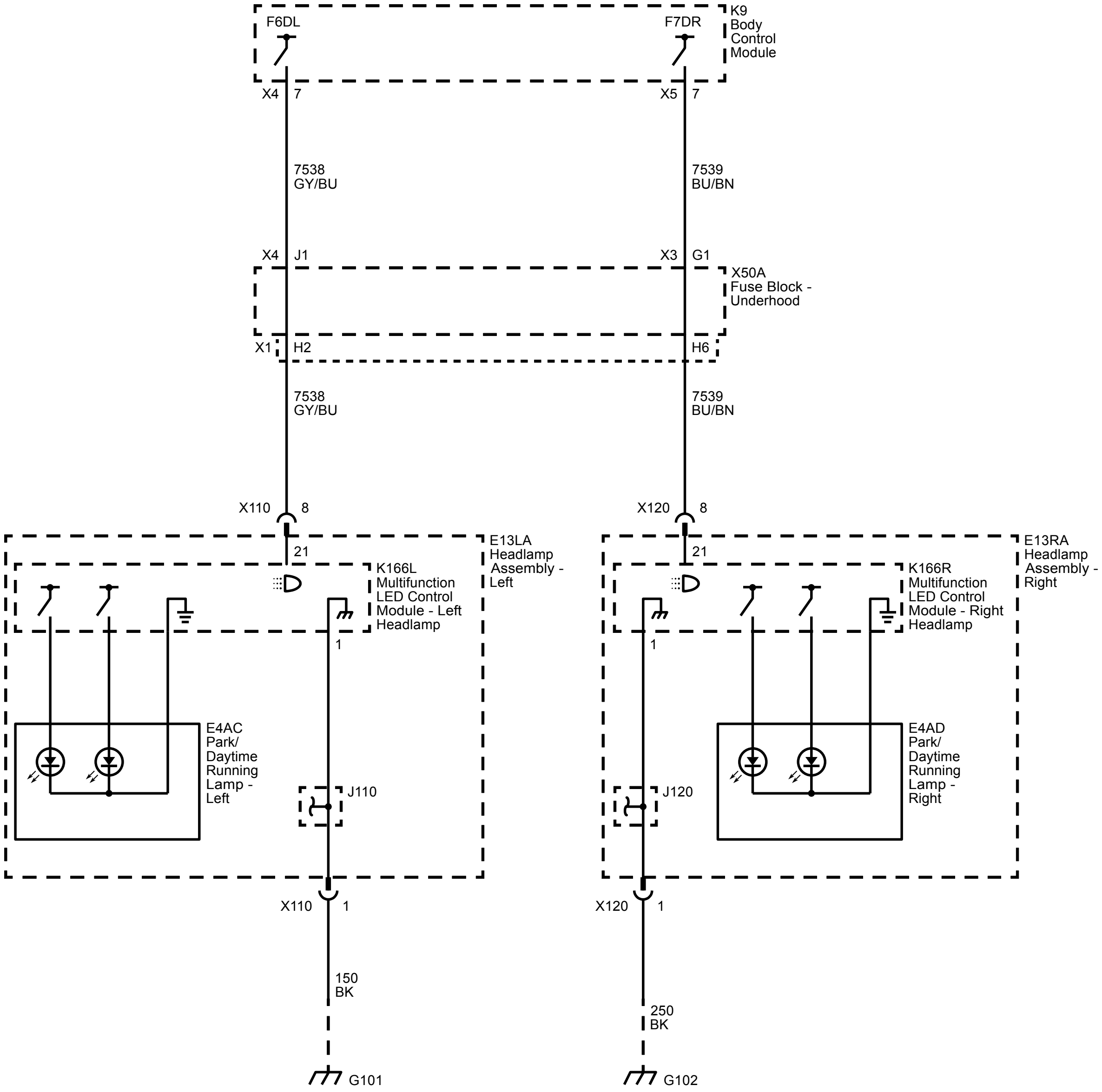
LOC
DESC

Headlamps (2500/3500 with Z88)

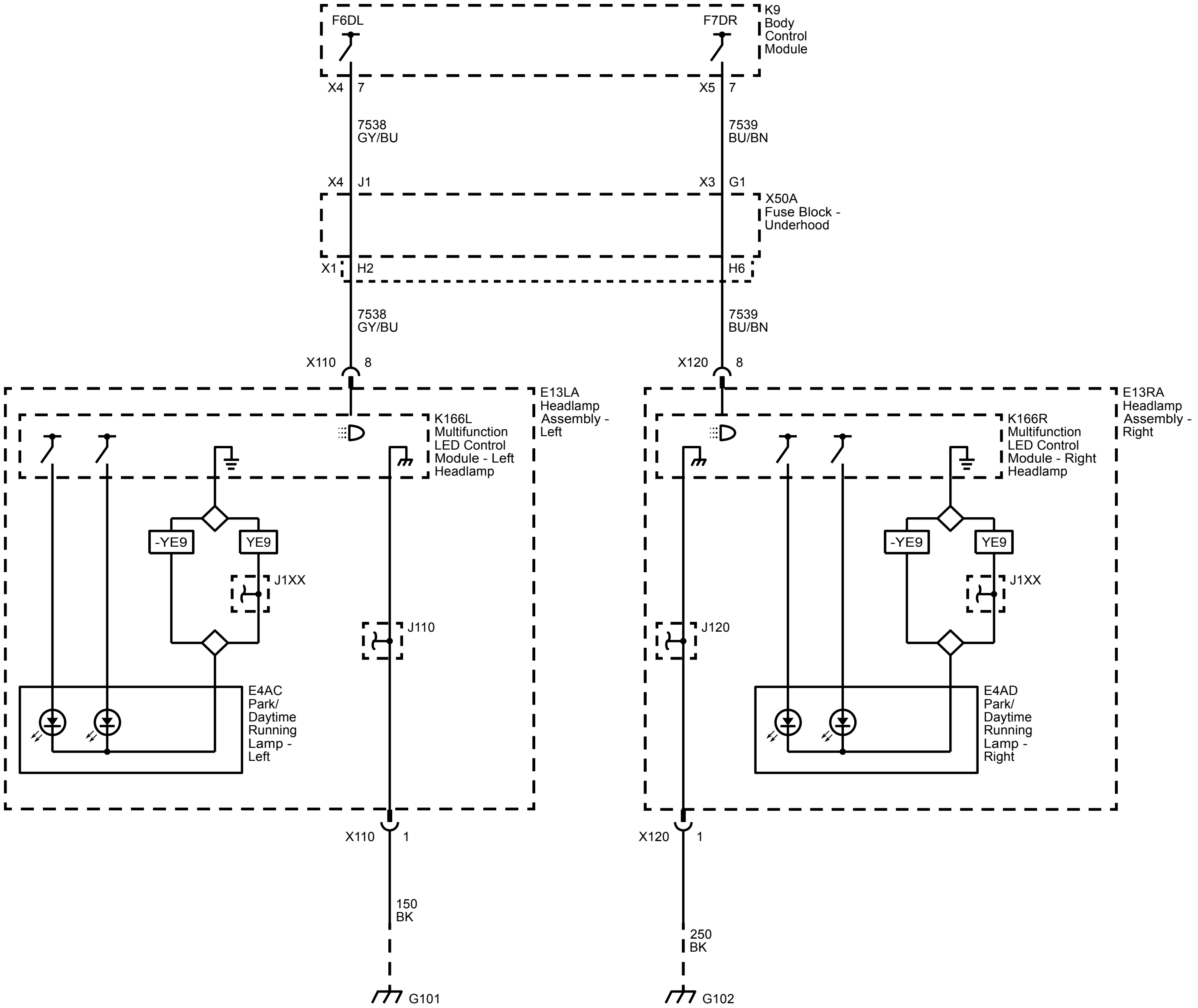


F7DR
F6DL
K9
Body
Control
Module
X4
1
712
YE
X5
18
1969
BN/VT
2
312
YE
K1
B+
X3
L2
M1
X50A
Fuse Block -
Underhood
KR48
Headlamp
High Beam
Relay
F58UA
10A
X1
D1
J4
H4
J5
712
YE
B
711
WH
C
311
WH
C
312
YE
B
X110
X120
712
RD
711
D-BU (SLT)
711
WH (-SLT)
311
D-BU (SLT)
311
WH (-SLT)
312
RD
E13LA
Headlamp
Assembly -
Left
E13RA
Headlamp
Assembly -
Right
E4G
Headlamp -
Left Low
Beam
A90
Logic
5
K81L
Headlamp
High Beam
Control
Module -
Left
4
1
2
K81R
Headlamp
High Beam
Control
Module -
Right
E4H
Headlamp -
Right Low
Beam
A90
Logic
M28L
High Beam
Solenoid
Actuator -
Left
M28R
High Beam
Solenoid
Actuator -
Right
J111
J110
J121
J120
X110
A
150
BK
X120
A
250
BK
G101
G102

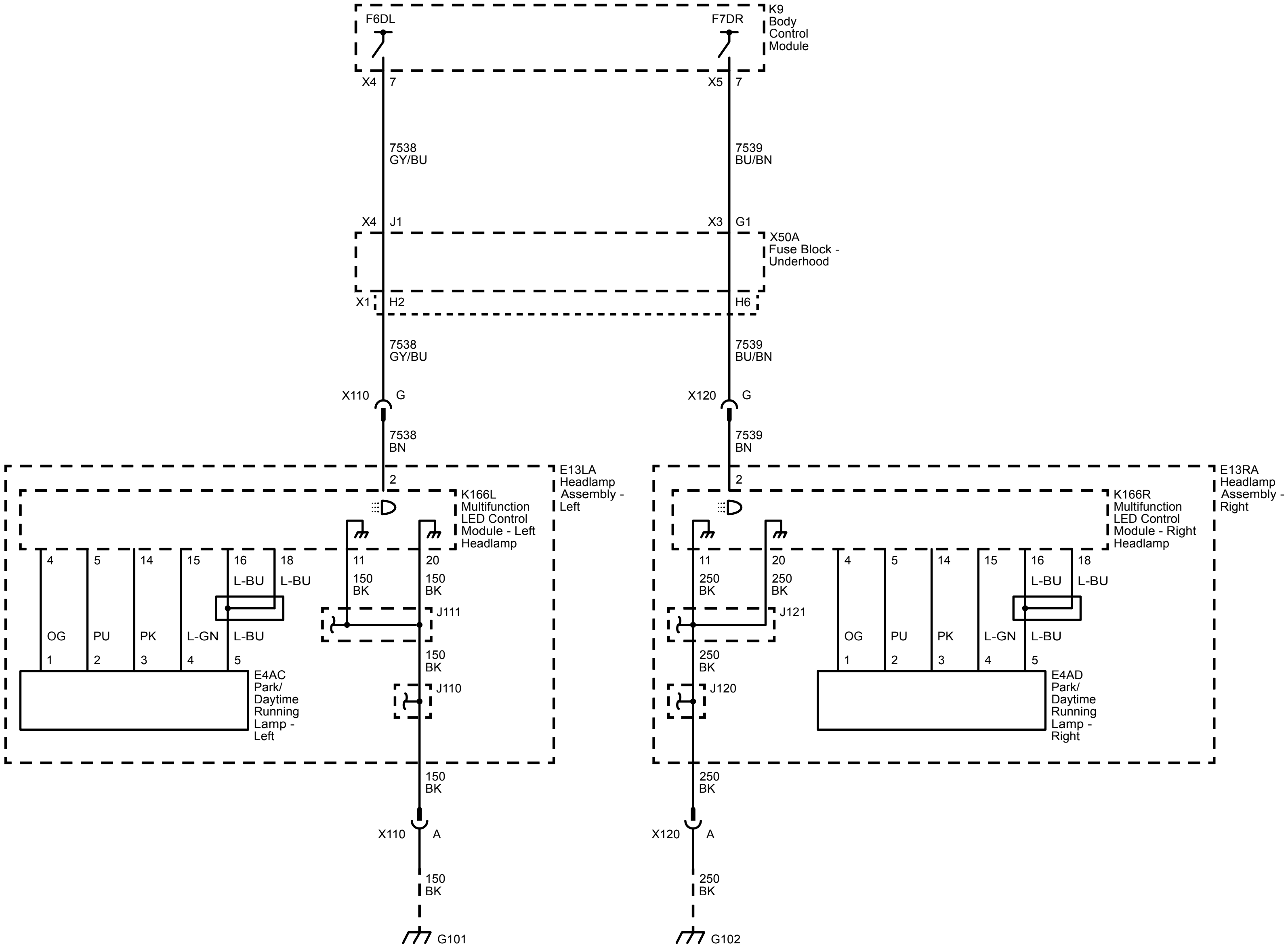
Daytime Running Lamps (1500 with X88)


F6DL
F7DR
K9
Body
Control
Module
X4 7
X5 7
7538
GY/BU
7539
BU/BN
X4 J1
X3 G1
X50A
Fuse Block -
Underhood
X1 H2
H6
7538
GY/BU
7539
BU/BN
X110 8
X120 8
21
21
E13LA
Headlamp
Assembly -
Left
K166L
Multifunction
LED Control
Module - Left
Headlamp
1
E13RA
Headlamp
Assembly -
Right
K166R
Multifunction
LED Control
Module - Right
Headlamp
1
E4AC
Park/
Daytime
Running
Lamp -
Left
J110
J120
E4AD
Park/
Daytime
Running
Lamp -
Right
X110 1
X120 1
150
BK
250
BK
G101
G102

Daytime Running Lamps (1500/Z88)


F6DL
F7DR
K9 Body Control Module
X4 7
X5 7
7538 GY/BU
7539 BU/BN
X4 J1
X3 G1
X50A Fuse Block - Underhood
X1 H2
H6
7538 GY/BU
7539 BU/BN
X110 8
X120 8
E13LA Headlamp Assembly - Left
K166L Multifunction LED Control Module - Left Headlamp
E13RA Headlamp Assembly - Right
K166R Multifunction LED Control Module - Right Headlamp
-YE9
YE9
J1XX
J110
J120
-YE9
YE9
J1XX
E4AC Park/ Daytime Running Lamp - Left
E4AD Park/ Daytime Running Lamp - Right
X110 1
X120 1
150 BK
250 BK
G101
G102

Daytime Running Lamps (2500/3500 with Z88 and SLT)

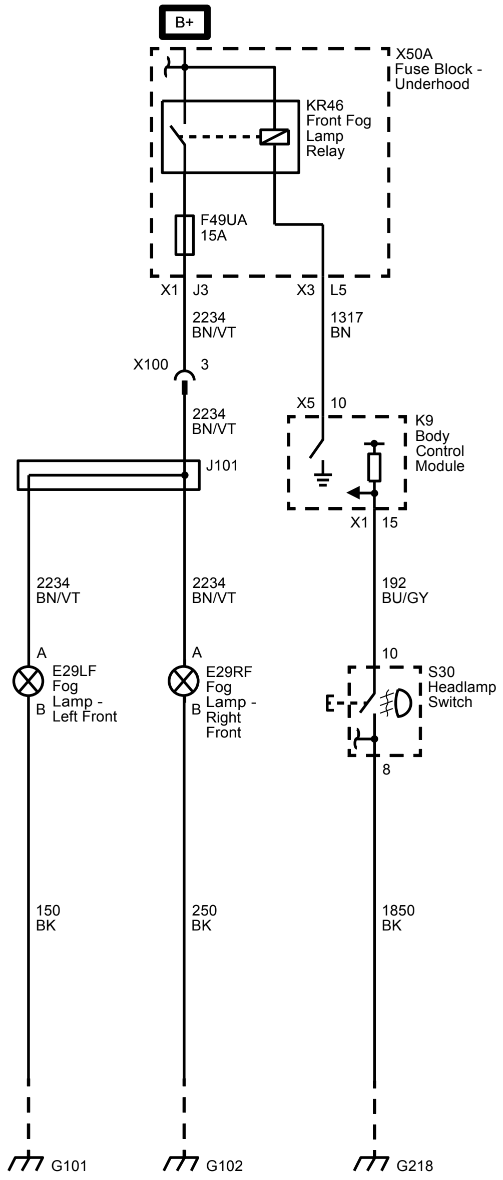

F6DL
F7DR
K9
Body
Control
Module
X4 7
X5 7
7538
GY/BU
7539
BU/BN
X4 J1
X3 G1
X50A
Fuse Block -
Underhood
X1 H2
H6
7538
GY/BU
7539
BU/BN
X110 G
X120 G
7538
BN
7539
BN
E13LA
Headlamp
Assembly -
Left
2
K166L
Multifunction
LED Control
Module - Left
Headlamp
4
5
14
15
16
18
11
20
L-BU
L-BU
150
BK
150
BK
J111
OG
PU
PK
L-GN
L-BU
1
2
3
4
5
150
BK
J110
E4AC
Park/
Daytime
Running
Lamp -
Left
150
BK
X110 A
150
BK
G101
E13RA
Headlamp
Assembly -
Right
2
K166R
Multifunction
LED Control
Module - Right
Headlamp
11
20
250
BK
250
BK
J121
4
5
14
15
16
18
L-BU
L-BU
OG
PU
PK
L-GN
L-BU
1
2
3
4
5
250
BK
J120
E4AD
Park/
Daytime
Running
Lamp -
Right
250
BK
X120 A
250
BK
G102

Fog Lights Schematics

Fog Lamps (T3U)

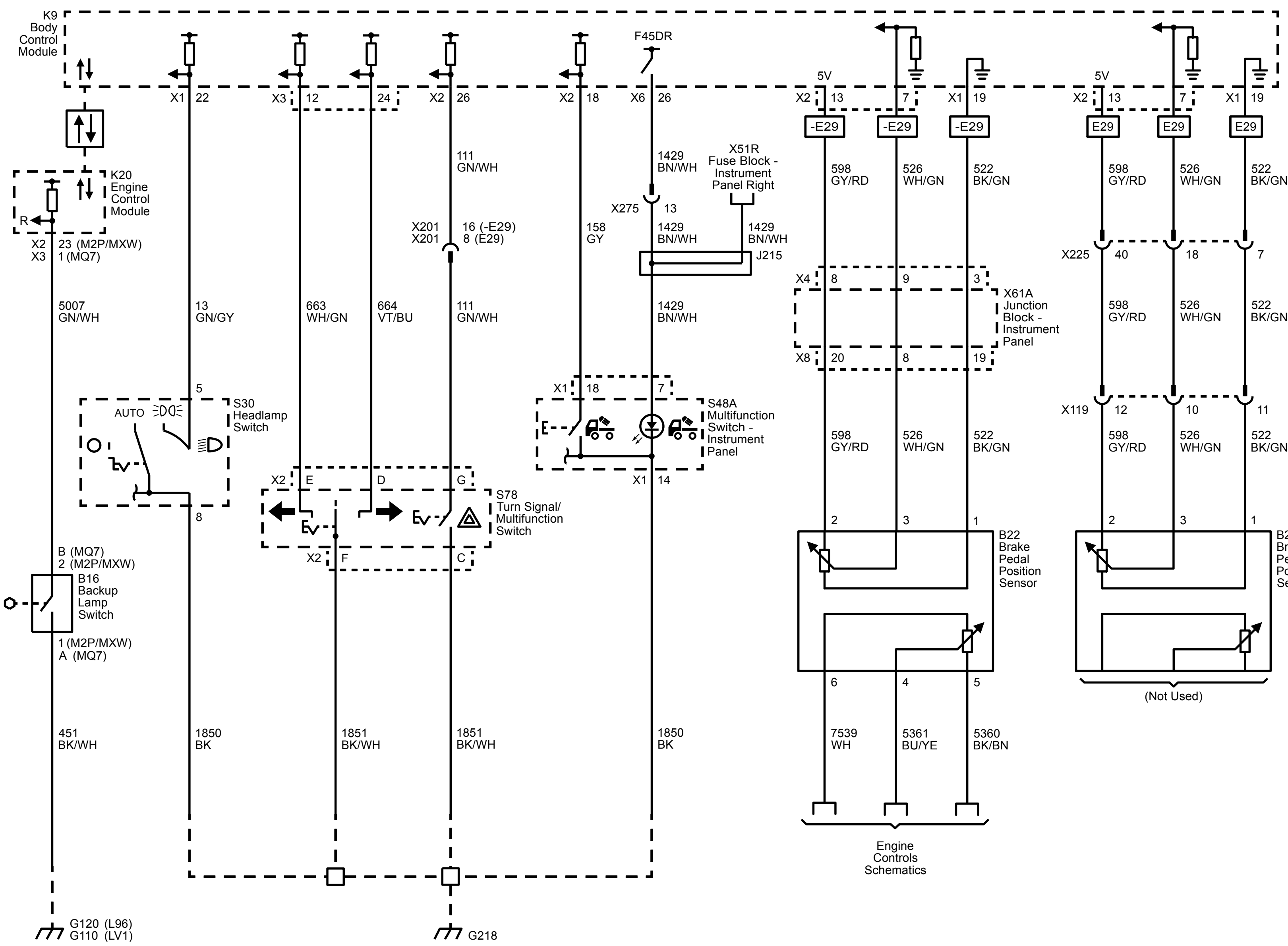
LOC

DESC

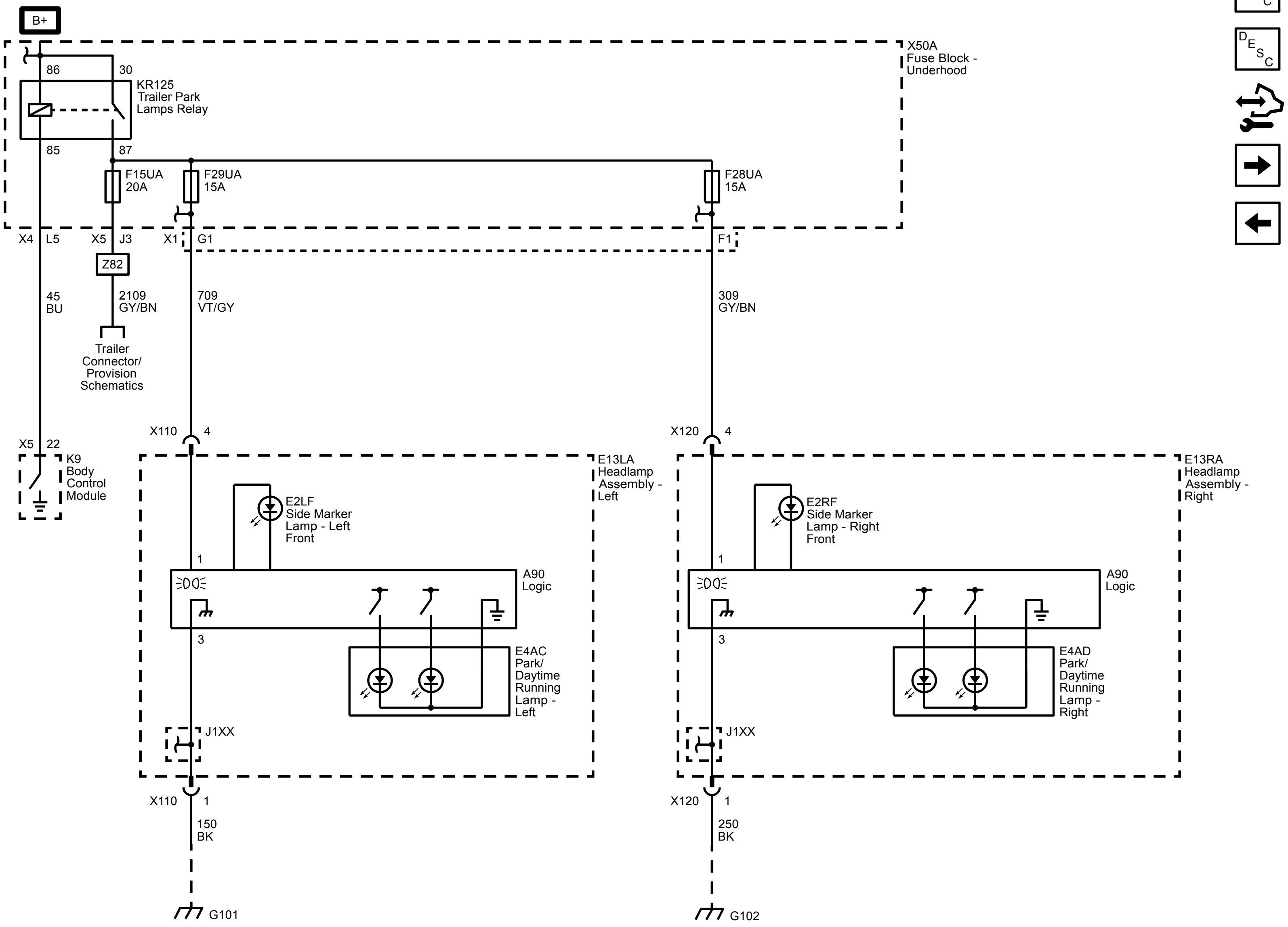

B+
X50A
Fuse Block -
Underhood
KR46
Front Fog
Lamp
Relay
F49UA
15A
X1
J3
X3
L5
2234
BN/VT
1317
BN
X100
3
2234
BN/VT
X5
10
K9
Body
Control
Module
J101
X1
15
2234
BN/VT
2234
BN/VT
192
BU/GY
A
E29LF
Fog
Lamp -
Left Front
B
A
E29RF
Fog
Lamp -
Right
Front
B
10
S30
Headlamp
Switch
8
150
BK
250
BK
1850
BK
G101
G102
G218

Exterior Lights Schematics

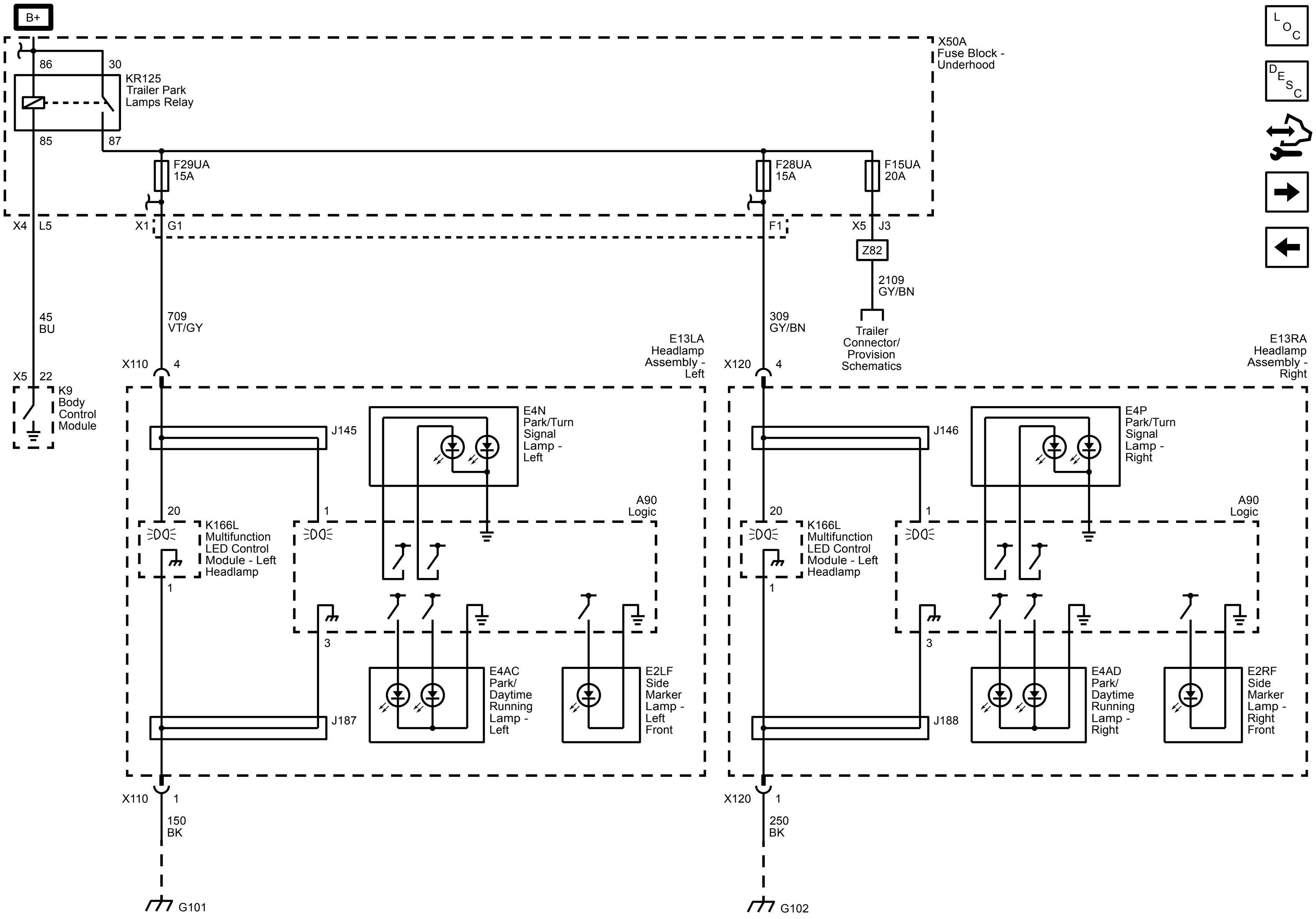
Controls


K9
Body
Control
Module
X1 22
X3 12
24
X2 26
X2 18
F45DR
X6 26
5V
X2 13
7
X1 19
5V
X2 13
7
X1 19
-E29
-E29
-E29
E29
E29
E29
K20
Engine
Control
Module
R
X2 23 (M2P/MXW)
X3 1 (MQ7)
5007
GN/WH
13
GN/GY
663
WH/GN
664
VT/BU
111
GN/WH
X201 16 (-E29)
X201 8 (E29)
111
GN/WH
158
GY
1429
BN/WH
X275 13
1429
BN/WH
X51R
Fuse Block -
Instrument
Panel Right
1429
BN/WH
J215
1429
BN/WH
598
GY/RD
526
WH/GN
522
BK/GN
598
GY/RD
526
WH/GN
522
BK/GN
X225 40
18
7
X4 8
9
3
X61A
Junction
Block -
Instrument
Panel
X8 20
8
19
598
GY/RD
526
WH/GN
522
BK/GN
X119 12
10
11
598
GY/RD
526
WH/GN
522
BK/GN
598
GY/RD
526
WH/GN
522
BK/GN
5
S30
Headlamp
Switch
AUTO
8
X1 18
7
S48A
Multifunction
Switch -
Instrument
Panel
X1 14
X2 E
D
G
S78
Turn Signal/
Multifunction
Switch
X2 F
C
2
3
1
B22
Brake
Pedal
Position
Sensor
6
4
5
2
3
1
B22
Brake
Pedal
Position
Sensor
(Not Used)
B (MQ7)
2 (M2P/MXW)
B16
Backup
Lamp
Switch
1 (M2P/MXW)
A (MQ7)
451
BK/WH
1850
BK
1851
BK/WH
1851
BK/WH
1850
BK
7539
WH
5361
BU/YE
5360
BK/BN
Engine
Controls
Schematics
G120 (L96)
G110 (LV1)
G218

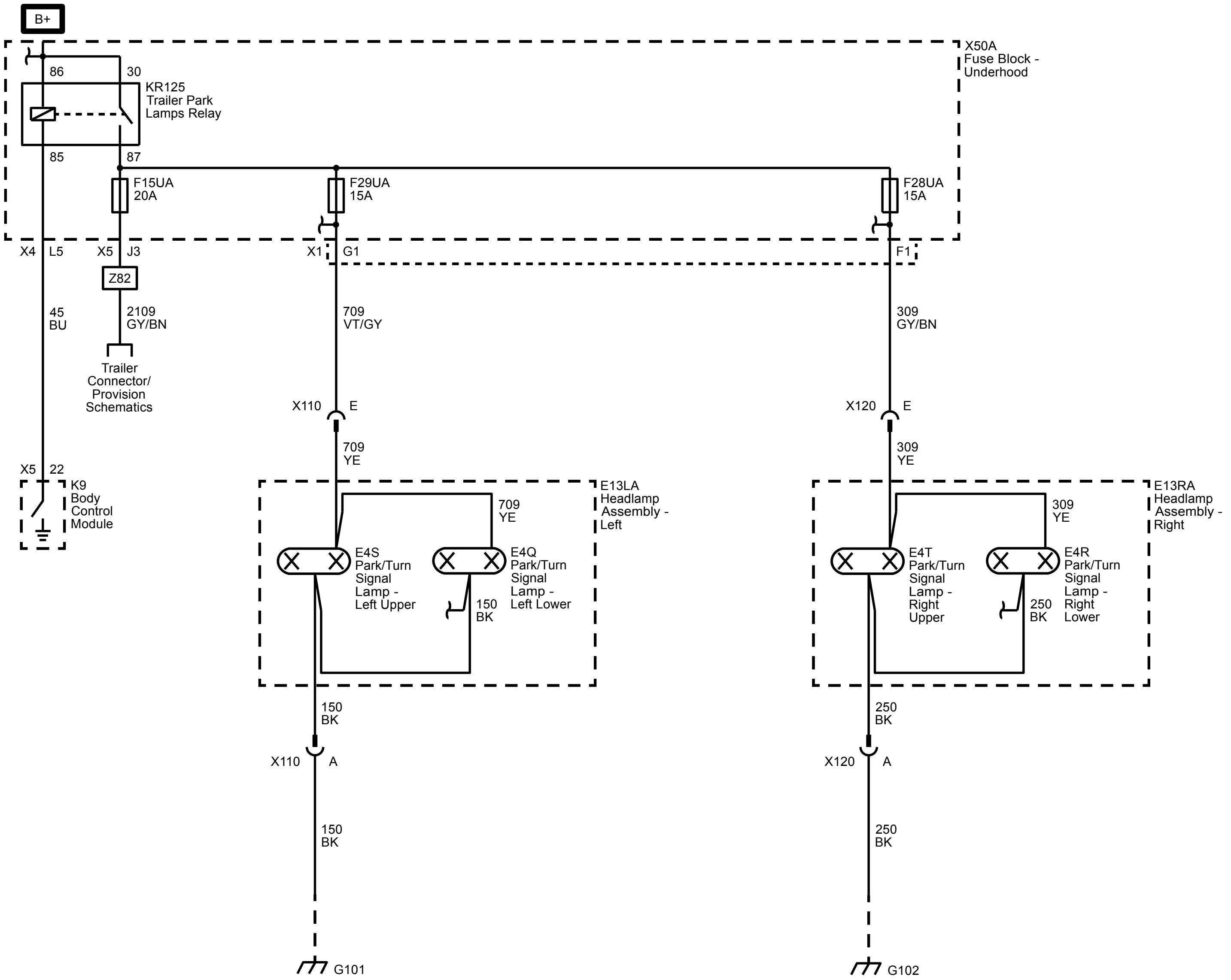
Park Lamps (1500 with X88 with T4F)


B+
86
30
KR125
Trailer Park
Lamps Relay
85
87
X50A
Fuse Block -
Underhood
F15UA
20A
F29UA
15A
F28UA
15A
X4
L5
X5
J3
X1
G1
F1
Z82
45
BU
2109
GY/BN
709
VT/GY
309
GY/BN
Trailer
Connector/
Provision
Schematics
X5
22
K9
Body
Control
Module
X110
4
X120
4
E13LA
Headlamp
Assembly -
Left
E13RA
Headlamp
Assembly -
Right
E2LF
Side Marker
Lamp - Left
Front
E2RF
Side Marker
Lamp - Right
Front
1
1
A90
Logic
A90
Logic
3
3
E4AC
Park/
Daytime
Running
Lamp -
Left
E4AD
Park/
Daytime
Running
Lamp -
Right
J1XX
J1XX
X110
1
X120
1
150
BK
250
BK
G101
G102

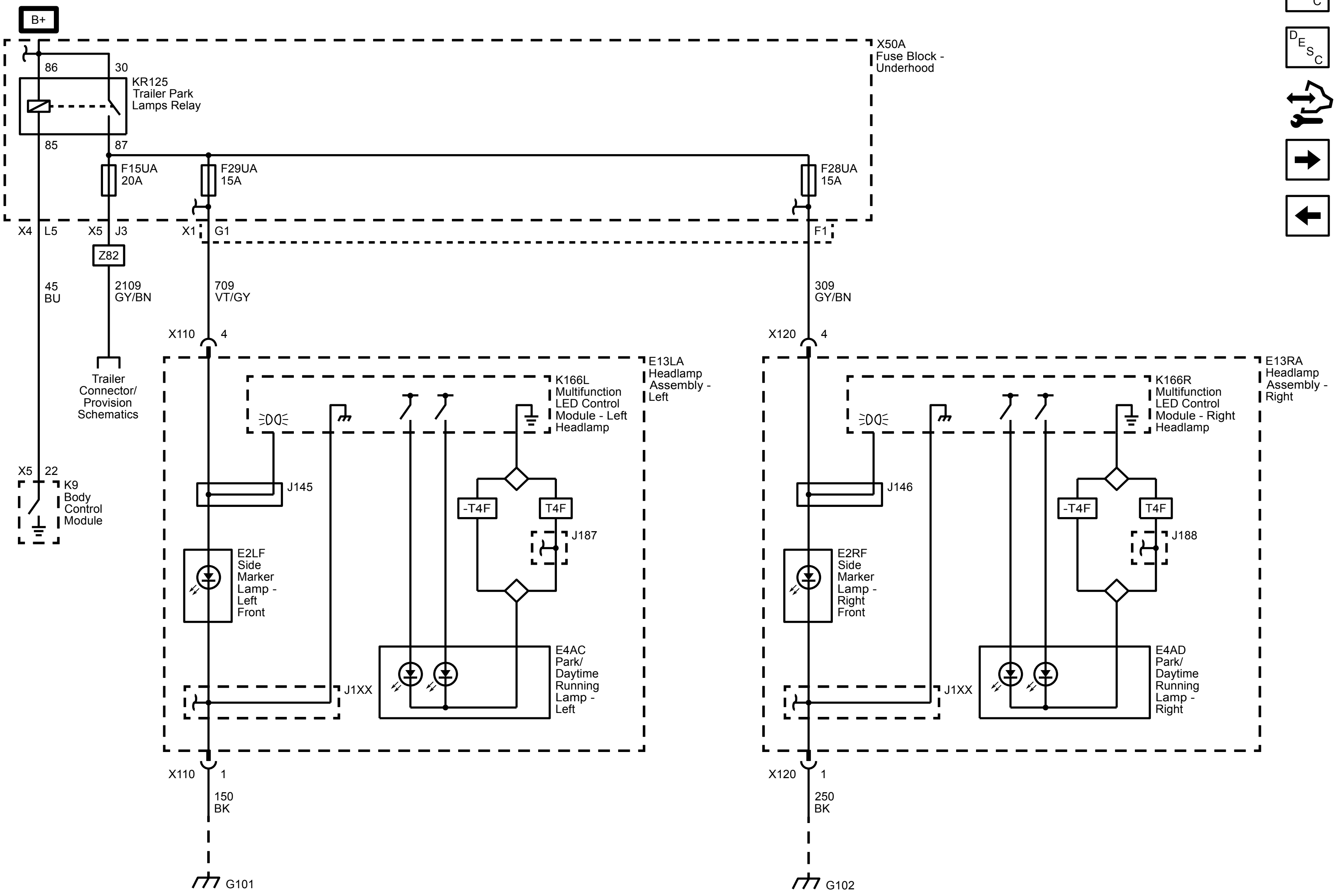
Park Lamps (1500 with X88 without T4F)


B+
X50A
Fuse Block -
Underhood
86
30
KR125
Trailer Park
Lamps Relay
85
87
F29UA
15A
F28UA
15A
F15UA
20A
X4
L5
X1
G1
F1
X5
J3
Z82
2109
GY/BN
Trailer
Connector/
Provision
Schematics
45
BU
709
VT/GY
309
GY/BN
X5
22
K9
Body
Control
Module
X110
4
E13LA
Headlamp
Assembly -
Left
X120
4
E13RA
Headlamp
Assembly -
Right
J145
E4N
Park/Turn
Signal
Lamp -
Left
J146
E4P
Park/Turn
Signal
Lamp -
Right
A90
Logic
20
1
K166L
Multifunction
LED Control
Module - Left
Headlamp
A90
Logic
20
1
K166L
Multifunction
LED Control
Module - Left
Headlamp
1
3
1
3
E4AC
Park/
Daytime
Running
Lamp -
Left
E2LF
Side
Marker
Lamp -
Left
Front
E4AD
Park/
Daytime
Running
Lamp -
Right
E2RF
Side
Marker
Lamp -
Right
Front
J187
J188
X110
1
150
BK
X120
1
250
BK
G101
G102

Park Lamps (2500/3500 with Chevrolet/X88)

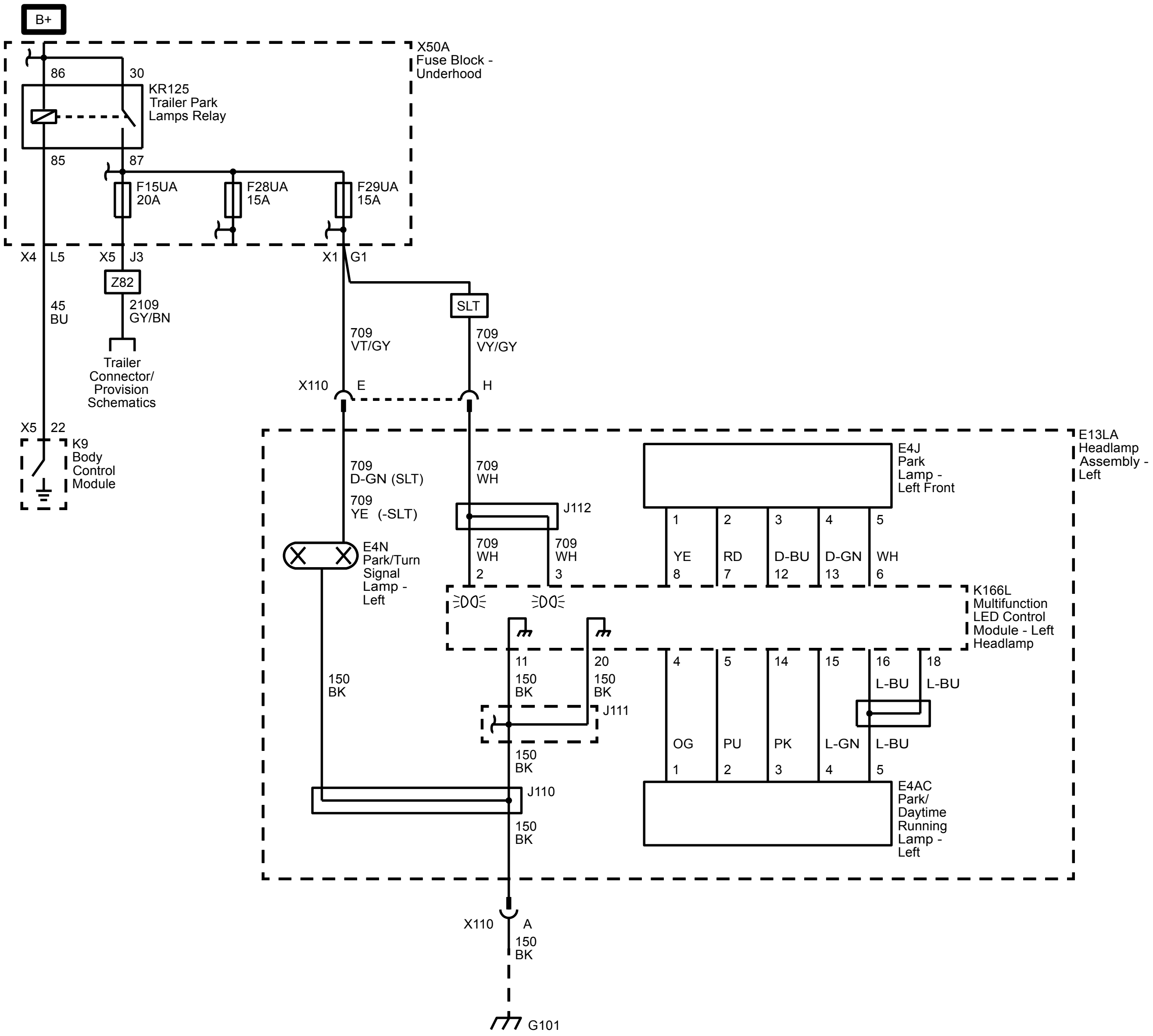

B+
X50A Fuse Block - Underhood
86
30
KR125 Trailer Park Lamps Relay
85
87
F15UA 20A
F29UA 15A
F28UA 15A
X4
L5
X5
J3
X1
G1
F1
Z82
45 BU
2109 GY/BN
Trailer Connector/ Provision Schematics
709 VT/GY
309 GY/BN
X110
E
X120
E
709 YE
309 YE
X5
22
K9 Body Control Module
E13LA Headlamp Assembly - Left
709 YE
E4S Park/Turn Signal Lamp - Left Upper
E4Q Park/Turn Signal Lamp - Left Lower
150 BK
E13RA Headlamp Assembly - Right
309 YE
E4T Park/Turn Signal Lamp - Right Upper
E4R Park/Turn Signal Lamp - Right Lower
250 BK
150 BK
X110
A
150 BK
250 BK
X120
A
250 BK
G101
G102

Park Lamps (1500/Z88)


B+
X50A
Fuse Block -
Underhood
86
30
KR125
Trailer Park
Lamps Relay
85
87
F15UA
20A
F29UA
15A
F28UA
15A
X4
L5
X5
J3
X1
G1
F1
Z82
45
BU
2109
GY/BN
709
VT/GY
309
GY/BN
Trailer
Connector/
Provision
Schematics
X5
22
K9
Body
Control
Module
X110
4
X120
4
E13LA
Headlamp
Assembly -
Left
K166L
Multifunction
LED Control
Module - Left
Headlamp
J145
-T4F
T4F
J187
E2LF
Side
Marker
Lamp -
Left
Front
E4AC
Park/
Daytime
Running
Lamp -
Left
J1XX
E13RA
Headlamp
Assembly -
Right
K166R
Multifunction
LED Control
Module - Right
Headlamp
J146
-T4F
T4F
J188
E2RF
Side
Marker
Lamp -
Right
Front
E4AD
Park/
Daytime
Running
Lamp -
Right
J1XX
X110
1
150
BK
G101
X120
1
250
BK
G102

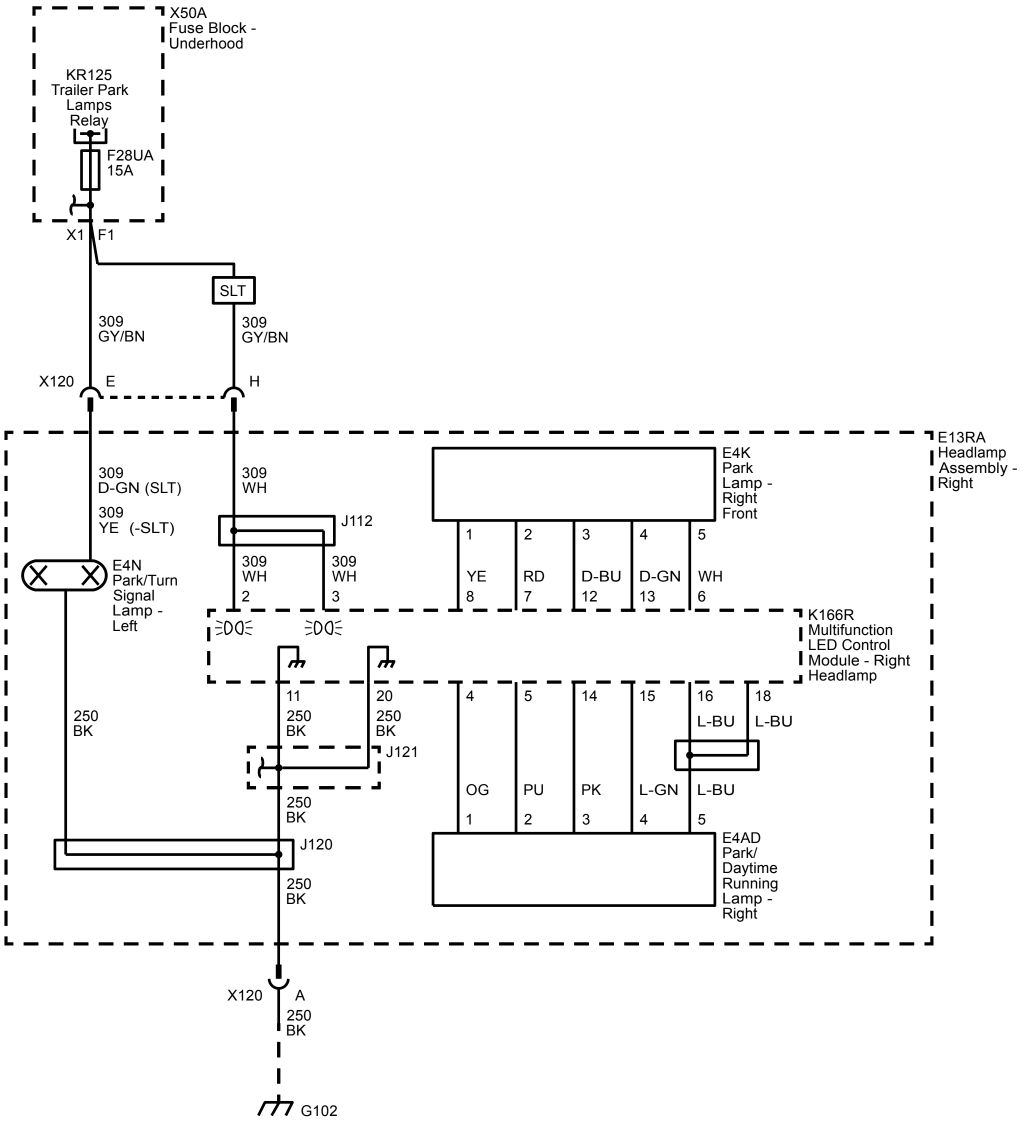
Park Lamps - Left (2500/3500 with GMC/Z88)

LOC
DESC

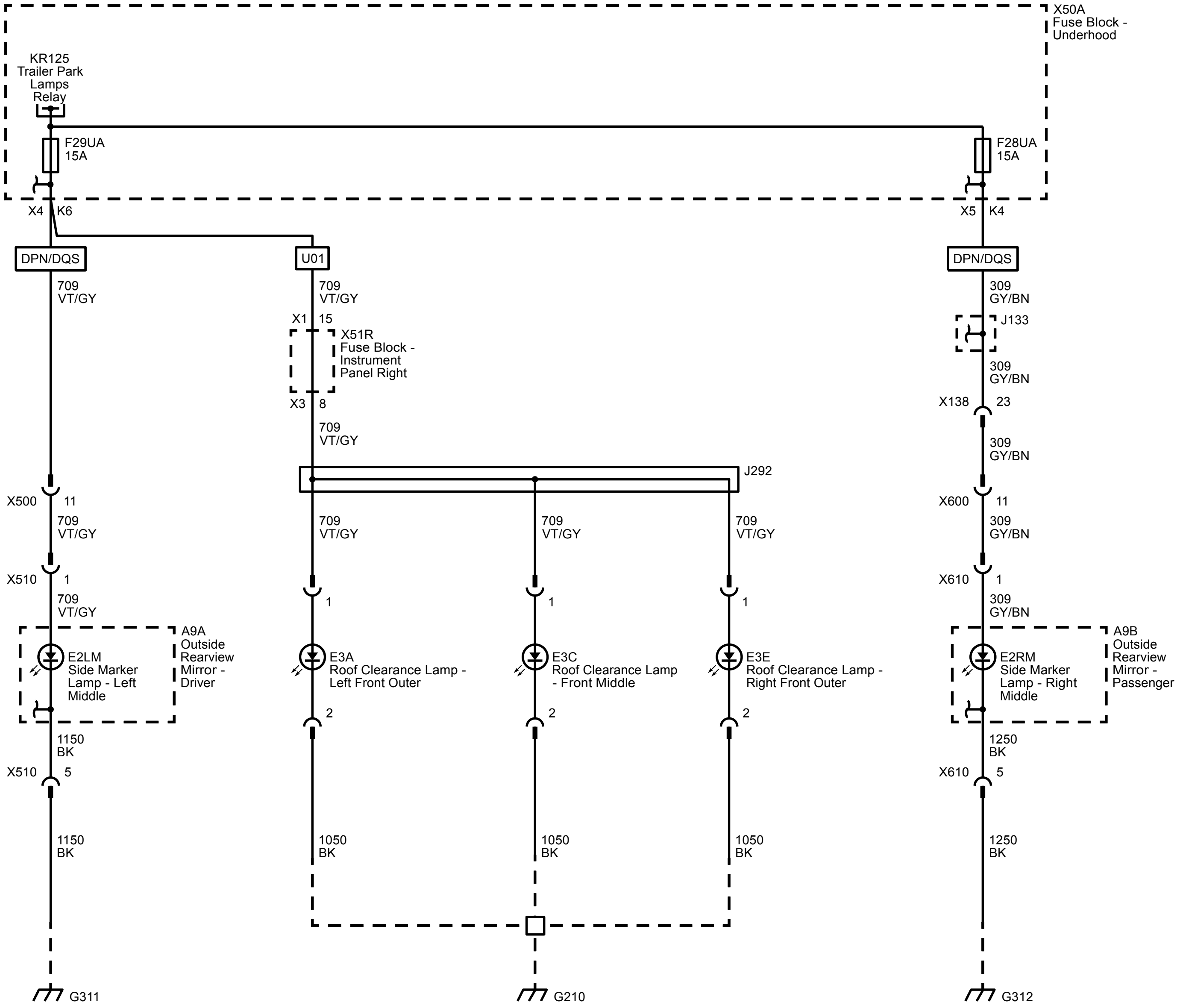

B+
X50A
Fuse Block -
Underhood
86
30
KR125
Trailer Park
Lamps Relay
85
87
F15UA
20A
F28UA
15A
F29UA
15A
X4
L5
X5
J3
X1
G1
Z82
45
BU
2109
GY/BN
Trailer
Connector/
Provision
Schematics
SLT
709
VT/GY
709
VY/GY
X110
E
H
X5
22
K9
Body
Control
Module
E13LA
Headlamp
Assembly -
Left
E4J
Park
Lamp -
Left Front
709
D-GN (SLT)
709
YE (-SLT)
709
WH
J112
709
WH
2
709
WH
3
E4N
Park/Turn
Signal
Lamp -
Left
1
2
3
4
5
YE
8
RD
7
D-BU
12
D-GN
13
WH
6
K166L
Multifunction
LED Control
Module - Left
Headlamp
150
BK
11
150
BK
20
150
BK
J111
150
BK
4
5
14
15
16
18
L-BU
L-BU
OG
PU
PK
L-GN
L-BU
1
2
3
4
5
E4AC
Park/
Daytime
Running
Lamp -
Left
J110
150
BK
X110
A
150
BK
G101

Park Lamps - Right (2500/3500 with GMC/Z88)

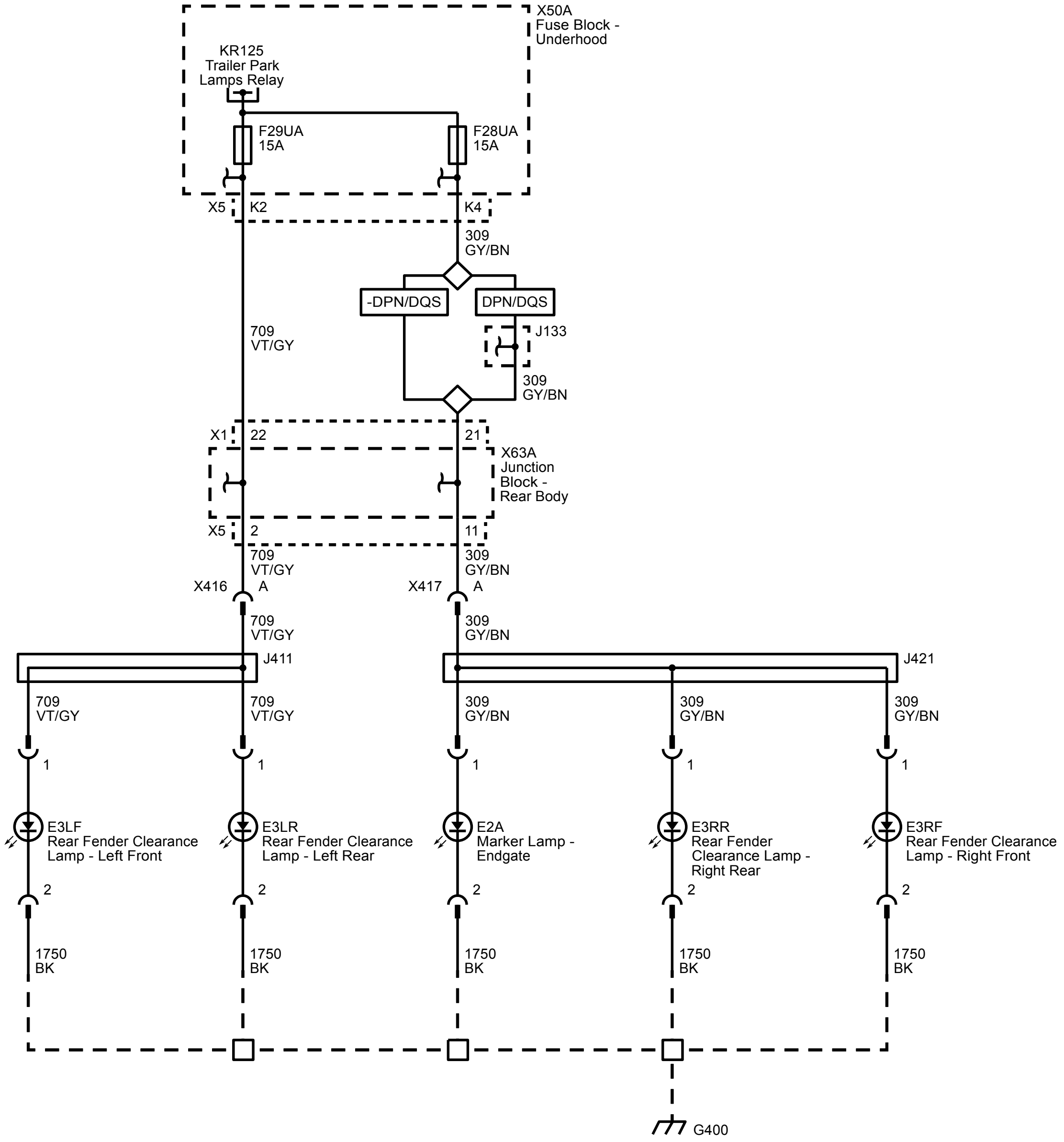
LOC
DESC


X50A Fuse Block - Underhood
KR125 Trailer Park Lamps Relay
F28UA 15A
X1
F1
SLT
309 GY/BN
309 GY/BN
X120
E
H
E13RA Headlamp Assembly - Right
309 D-GN (SLT)
309 YE (-SLT)
309 WH
J112
309 WH 2
309 WH 3
E4N Park/Turn Signal Lamp - Left
E4K Park Lamp - Right Front
1
2
3
4
5
YE 8
RD 7
D-BU 12
D-GN 13
WH 6
K166R Multifunction LED Control Module - Right Headlamp
11
20
4
5
14
15
16
18
250 BK
250 BK
250 BK
L-BU
L-BU
J121
250 BK
OG 1
PU 2
PK 3
L-GN 4
L-BU 5
E4AD Park/ Daytime Running Lamp - Right
J120
250 BK
X120
A
250 BK
G102

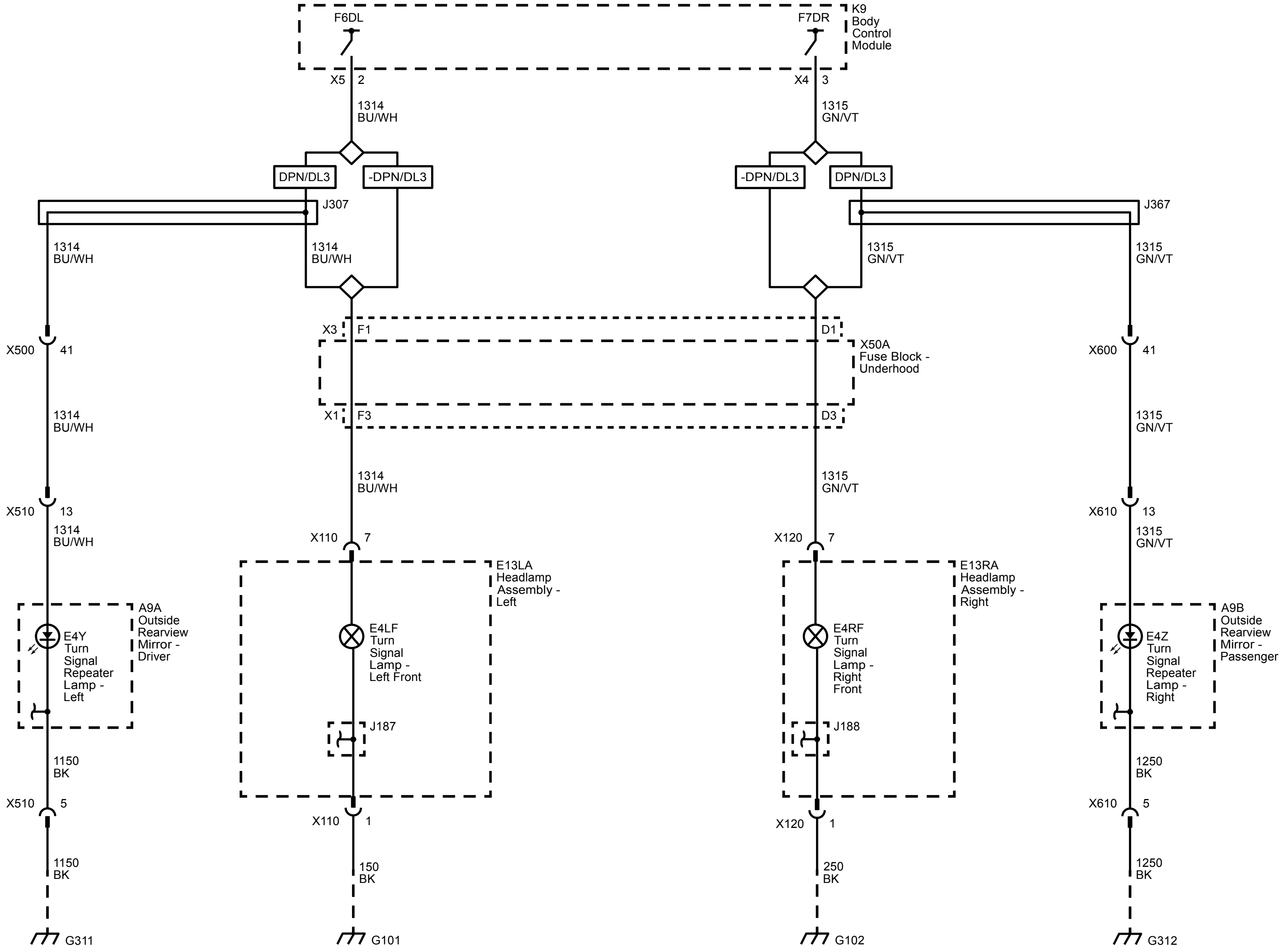
Park Lamps - Mirror (DPN or DQS) and Roof (U01)


X50A
Fuse Block -
Underhood
KR125
Trailer Park
Lamps
Relay
F29UA
15A
F28UA
15A
X4
K6
X5
K4
DPN/DQS
U01
DPN/DQS
709
VT/GY
709
VT/GY
X1
15
X51R
Fuse Block -
Instrument
Panel Right
X3
8
709
VT/GY
309
GY/BN
J133
309
GY/BN
X138
23
309
GY/BN
J292
X500
11
709
VT/GY
709
VT/GY
709
VT/GY
709
VT/GY
X600
11
309
GY/BN
X510
1
709
VT/GY
1
1
1
X610
1
309
GY/BN
E2LM
Side Marker
Lamp - Left
Middle
A9A
Outside
Rearview
Mirror -
Driver
E3A
Roof Clearance Lamp -
Left Front Outer
E3C
Roof Clearance Lamp
- Front Middle
E3E
Roof Clearance Lamp -
Right Front Outer
E2RM
Side Marker
Lamp - Right
Middle
A9B
Outside
Rearview
Mirror -
Passenger
2
2
2
1150
BK
X510
5
1250
BK
X610
5
1150
BK
1050
BK
1050
BK
1050
BK
1250
BK
G311
G210
G312

Park Lamps - Rear Clearance (DRW)


X50A
Fuse Block - Underhood
KR125
Trailer Park Lamps Relay
F29UA
15A
F28UA
15A
X5
K2
K4
309
GY/BN
-DPN/DQS
DPN/DQS
709
VT/GY
J133
309
GY/BN
X1
22
21
X63A
Junction Block - Rear Body
X5
2
11
709
VT/GY
309
GY/BN
X416
A
X417
A
709
VT/GY
309
GY/BN
J411
J421
709
VT/GY
709
VT/GY
309
GY/BN
309
GY/BN
309
GY/BN
1
1
1
1
1
E3LF
Rear Fender Clearance Lamp - Left Front
E3LR
Rear Fender Clearance Lamp - Left Rear
E2A
Marker Lamp - Endgate
E3RR
Rear Fender Clearance Lamp - Right Rear
E3RF
Rear Fender Clearance Lamp - Right Front
2
2
2
2
2
1750
BK
1750
BK
1750
BK
1750
BK
1750
BK
G400

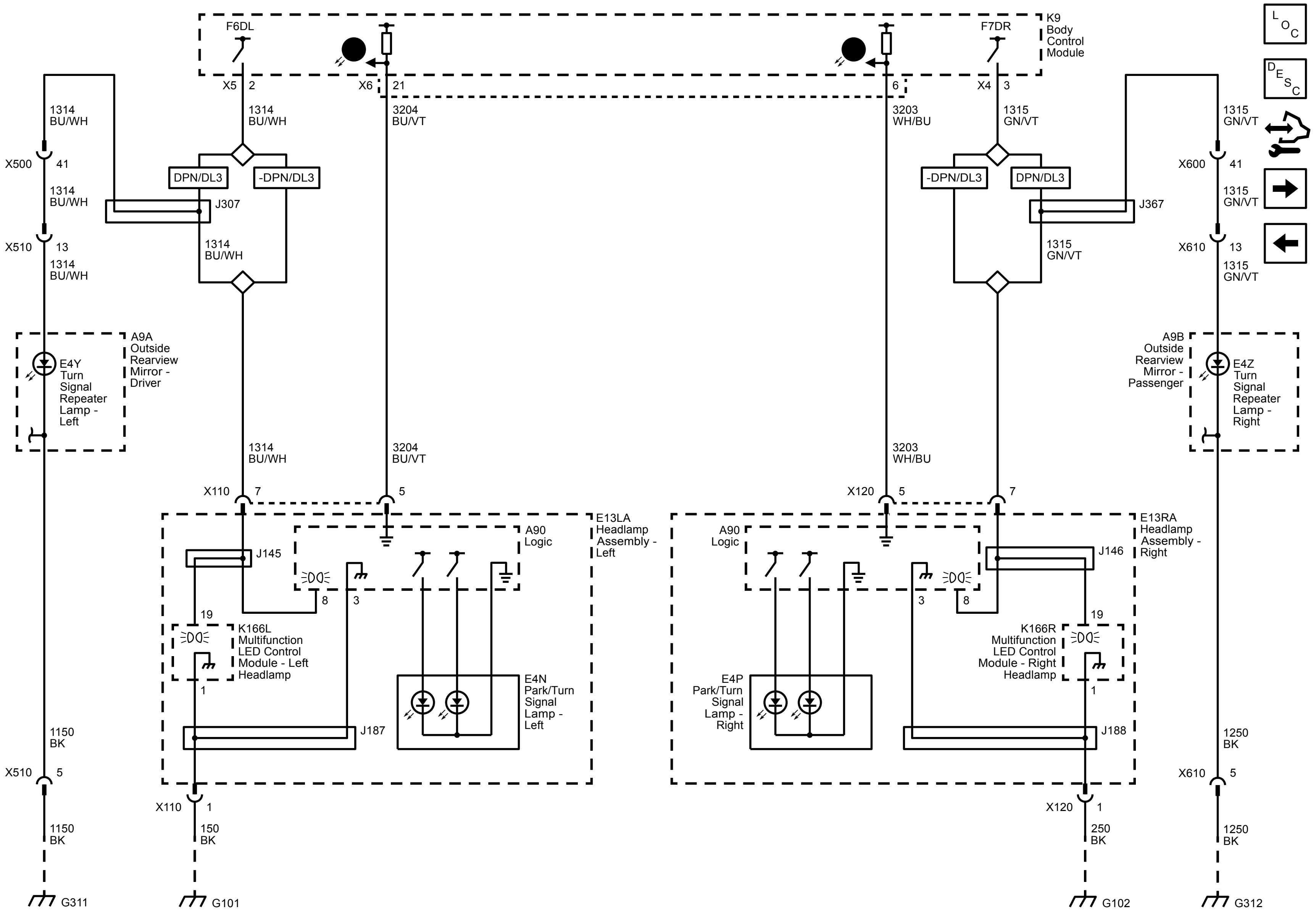
Turn Signal Lamps - Front (1500 with X88 or Z88 with T4F)



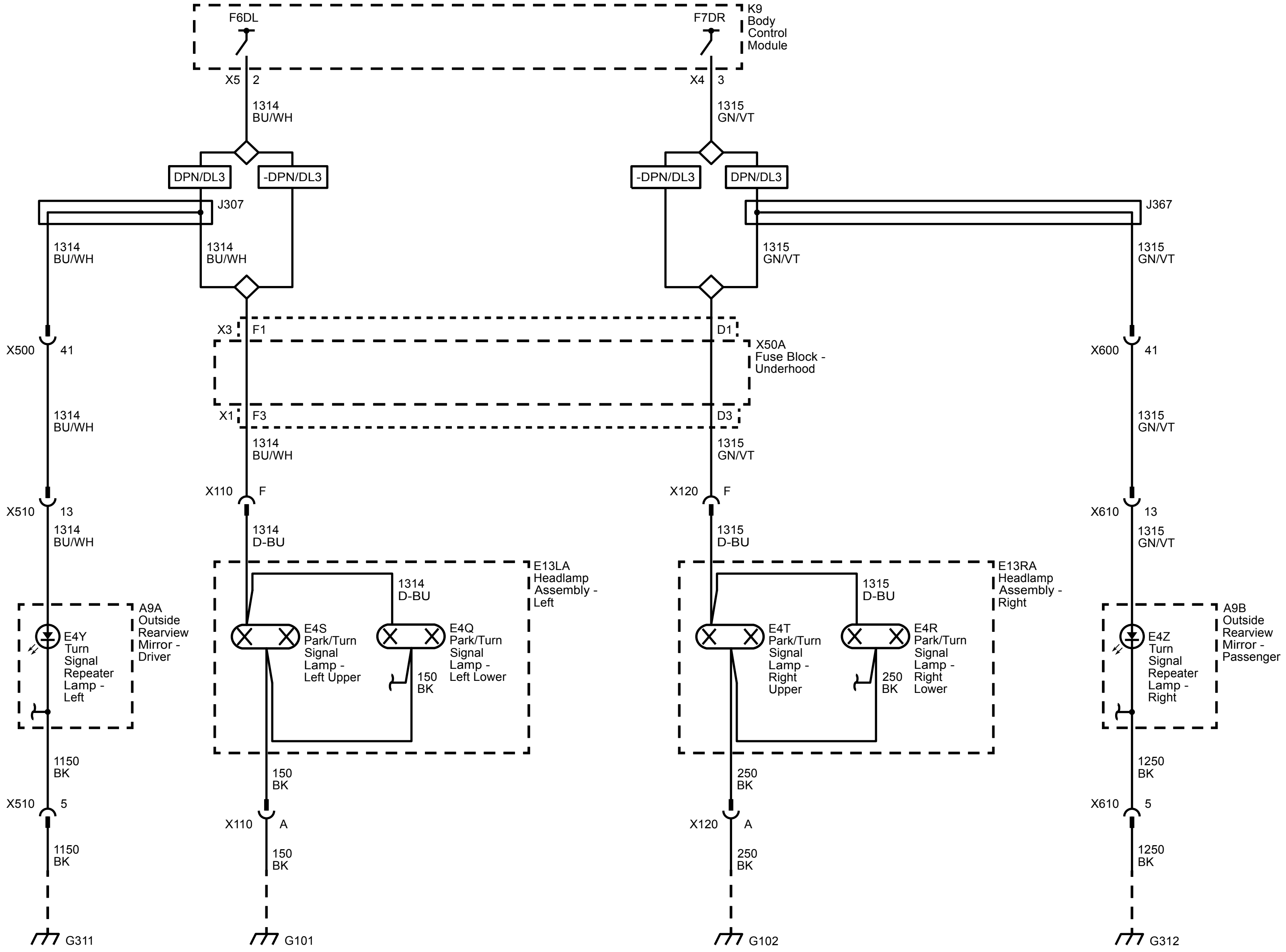
F6DL
F7DR
K9
Body
Control
Module
X5
2
X4
3
1314
BU/WH
1315
GN/VT
DPN/DL3
-DPN/DL3
-DPN/DL3
DPN/DL3
J307
J367
1314
BU/WH
1314
BU/WH
1315
GN/VT
1315
GN/VT
X3
F1
D1
X50A
Fuse Block -
Underhood
X1
F3
D3
X500
41
X600
41
1314
BU/WH
1315
GN/VT
1314
BU/WH
1315
GN/VT
X510
13
1314
BU/WH
X110
7
X120
7
X610
13
1315
GN/VT
E13LA
Headlamp
Assembly -
Left
E13RA
Headlamp
Assembly -
Right
A9A
Outside
Rearview
Mirror -
Driver
E4Y
Turn
Signal
Repeater
Lamp -
Left
E4LF
Turn
Signal
Lamp -
Left Front
E4RF
Turn
Signal
Lamp -
Right
Front
A9B
Outside
Rearview
Mirror -
Passenger
E4Z
Turn
Signal
Repeater
Lamp -
Right
J187
J188
1150
BK
1250
BK
X510
5
X110
1
X120
1
X610
5
1150
BK
150
BK
250
BK
1250
BK
G311
G101
G102
G312

LOC
DESC

Turn Signal Lamps - Front (1500 with X88 with T4F)


K9
Body
Control
Module
F6DL
F7DR
X5 2
X6 21
6
X4 3
1314
BU/WH
3204
BU/VT
3203
WH/BU
1315
GN/VT
DPN/DL3
-DPN/DL3
J307
J367
X500 41
X600 41
X510 13
X610 13
A9A
Outside
Rearview
Mirror -
Driver
E4Y
Turn
Signal
Repeater
Lamp -
Left
A9B
Outside
Rearview
Mirror -
Passenger
E4Z
Turn
Signal
Repeater
Lamp -
Right
X110 7
5
X120 5
7
E13LA
Headlamp
Assembly -
Left
E13RA
Headlamp
Assembly -
Right
A90
Logic
J145
J146
8
3
19
K166L
Multifunction
LED Control
Module - Left
Headlamp
K166R
Multifunction
LED Control
Module - Right
Headlamp
1
E4N
Park/Turn
Signal
Lamp -
Left
E4P
Park/Turn
Signal
Lamp -
Right
J187
J188
1150
BK
150
BK
250
BK
1250
BK
X510 5
X610 5
X110 1
X120 1
G311
G101
G102
G312
LOC
DESC

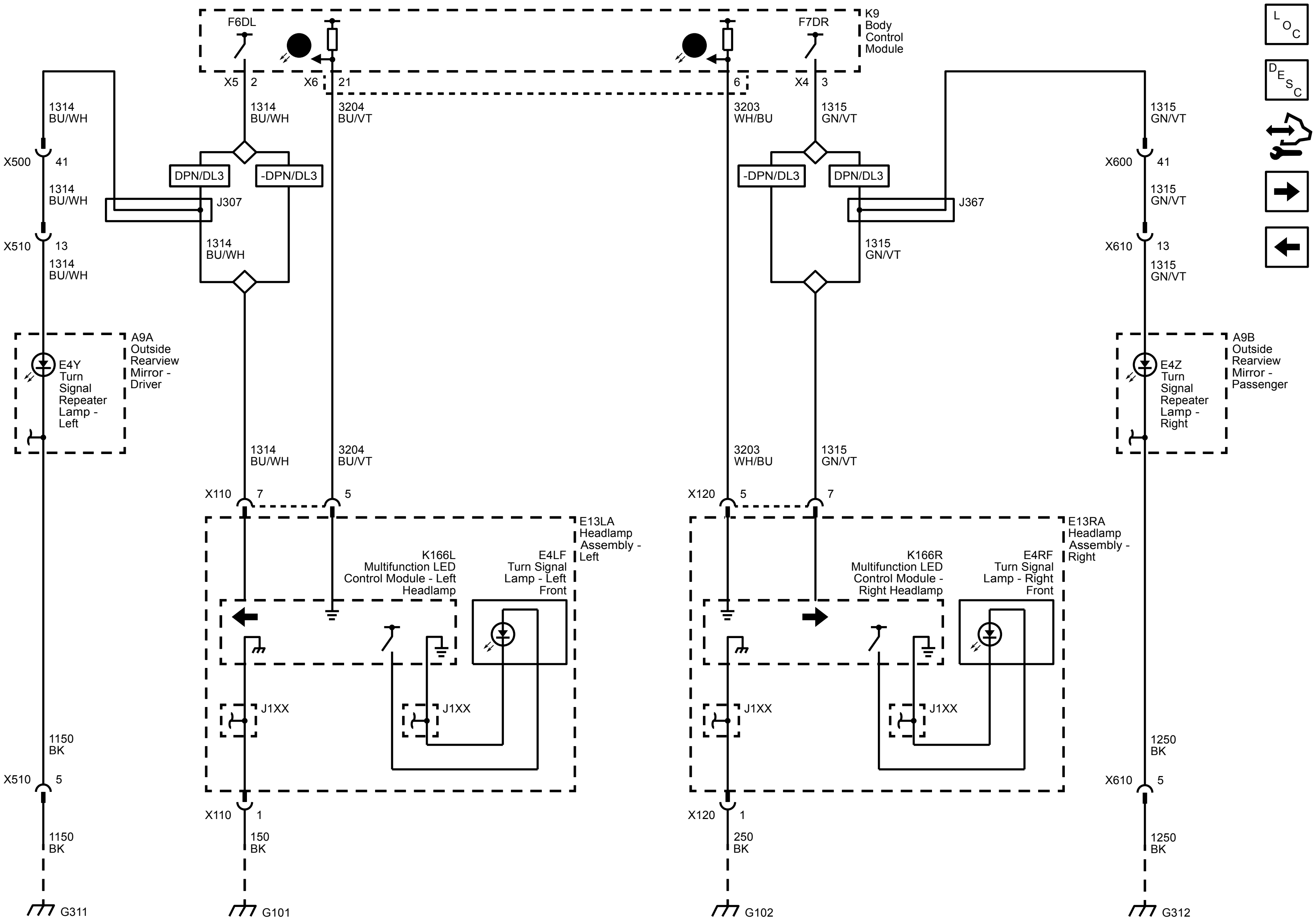
Turn Signal Lamps - Front (2500/3500 with Chevrolet/X88)



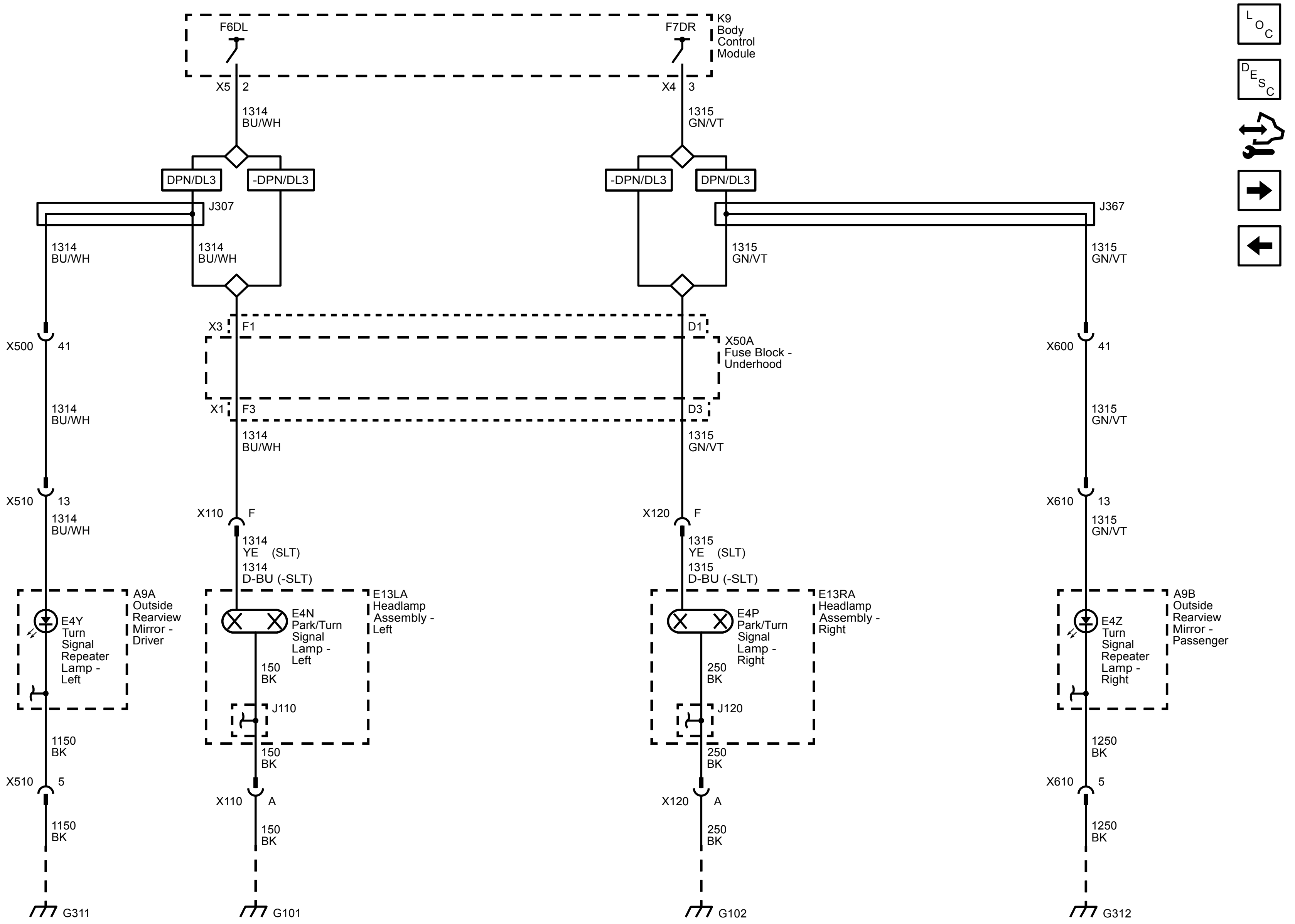
F6DL
F7DR
K9 Body Control Module
X5 2
X4 3
1314 BU/WH
1315 GN/VT
DPN/DL3
-DPN/DL3
-DPN/DL3
DPN/DL3
J307
J367
1314 BU/WH
1314 BU/WH
1315 GN/VT
1315 GN/VT
X3 F1
D1
X50A Fuse Block - Underhood
X500 41
X600 41
1314 BU/WH
1315 GN/VT
X1 F3
D3
1314 BU/WH
1315 GN/VT
X110 F
X120 F
X510 13
X610 13
1314 BU/WH
1314 D-BU
1315 D-BU
1315 GN/VT
E13LA Headlamp Assembly - Left
E13RA Headlamp Assembly - Right
1314 D-BU
1315 D-BU
A9A Outside Rearview Mirror - Driver
E4Y Turn Signal Repeater Lamp - Left
E4S Park/Turn Signal Lamp - Left Upper
E4Q Park/Turn Signal Lamp - Left Lower
150 BK
E4T Park/Turn Signal Lamp - Right Upper
E4R Park/Turn Signal Lamp - Right Lower
250 BK
A9B Outside Rearview Mirror - Passenger
E4Z Turn Signal Repeater Lamp - Right
1150 BK
150 BK
250 BK
1250 BK
X510 5
X110 A
X120 A
X610 5
1150 BK
150 BK
250 BK
1250 BK
G311
G101
G102
G312

LOC
DESC

Turn Signal Lamps - Front (1500 with Z88 without T4F)

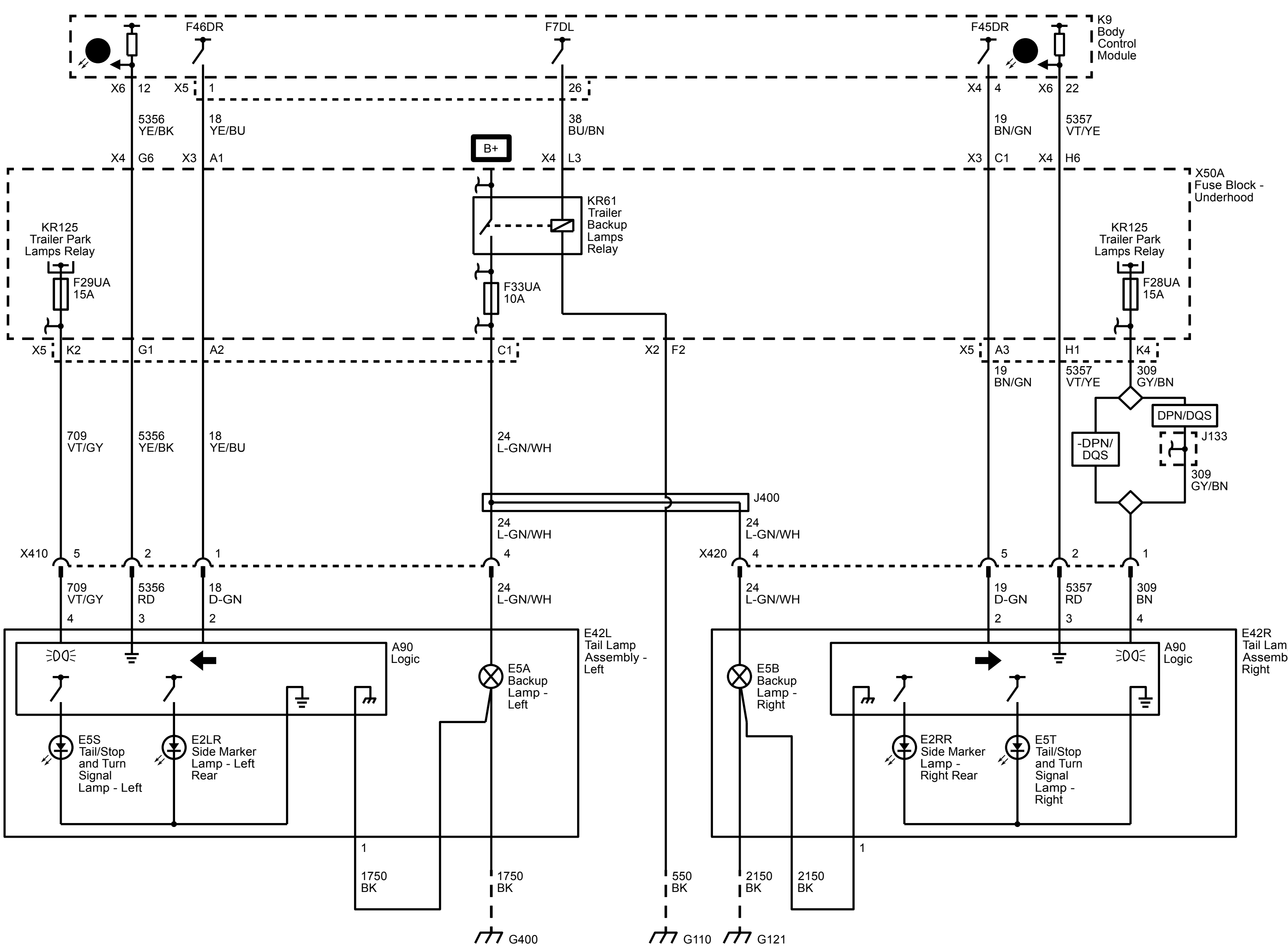

F6DL
F7DR
K9
Body
Control
Module
X5 2
X6 21
6
X4 3
1314
BU/WH
3204
BU/VT
3203
WH/BU
1315
GN/VT
X500 41
X600 41
DPN/DL3
-DPN/DL3
-DPN/DL3
DPN/DL3
J307
J367
X510 13
X610 13
A9A
Outside
Rearview
Mirror -
Driver
E4Y
Turn
Signal
Repeater
Lamp -
Left
A9B
Outside
Rearview
Mirror -
Passenger
E4Z
Turn
Signal
Repeater
Lamp -
Right
X110 7
5
X120 5
7
E13LA
Headlamp
Assembly -
Left
K166L
Multifunction LED
Control Module - Left
Headlamp
E4LF
Turn Signal
Lamp - Left
Front
E13RA
Headlamp
Assembly -
Right
K166R
Multifunction LED
Control Module -
Right Headlamp
E4RF
Turn Signal
Lamp - Right
Front
J1XX
J1XX
J1XX
J1XX
1150
BK
X510 5
1250
BK
X610 5
X110 1
150
BK
X120 1
250
BK
G311
G101
G102
G312

Turn Signal Lamps - Front (2500/3500 with GMC/Z88)

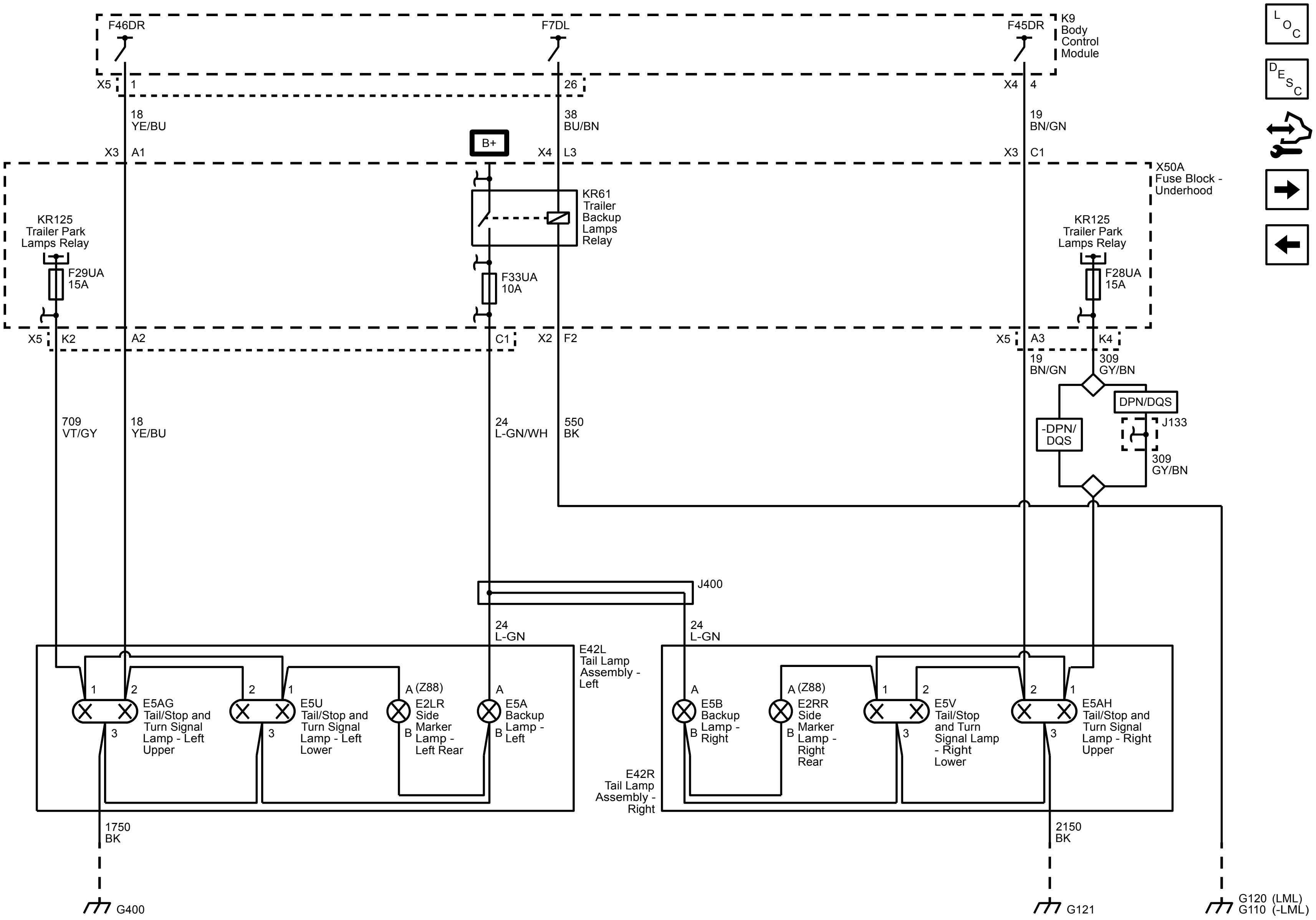


K9 Body Control Module
F6DL
F7DR
X5 2
X4 3
1314 BU/WH
1315 GN/VT
DPN/DL3
-DPN/DL3
J307
J367
X500 41
X600 41
X3 F1
D1
X50A Fuse Block - Underhood
X1 F3
D3
X510 13
X610 13
X110 F
X120 F
1314 YE (SLT)
1314 D-BU (-SLT)
1315 YE (SLT)
1315 D-BU (-SLT)
A9A Outside Rearview Mirror - Driver
E4Y Turn Signal Repeater Lamp - Left
E13LA Headlamp Assembly - Left
E4N Park/Turn Signal Lamp - Left
E13RA Headlamp Assembly - Right
E4P Park/Turn Signal Lamp - Right
A9B Outside Rearview Mirror - Passenger
E4Z Turn Signal Repeater Lamp - Right
150 BK
250 BK
J110
J120
1150 BK
1250 BK
X510 5
X610 5
X110 A
X120 A
G311
G101
G102
G312
L O C
D E S C

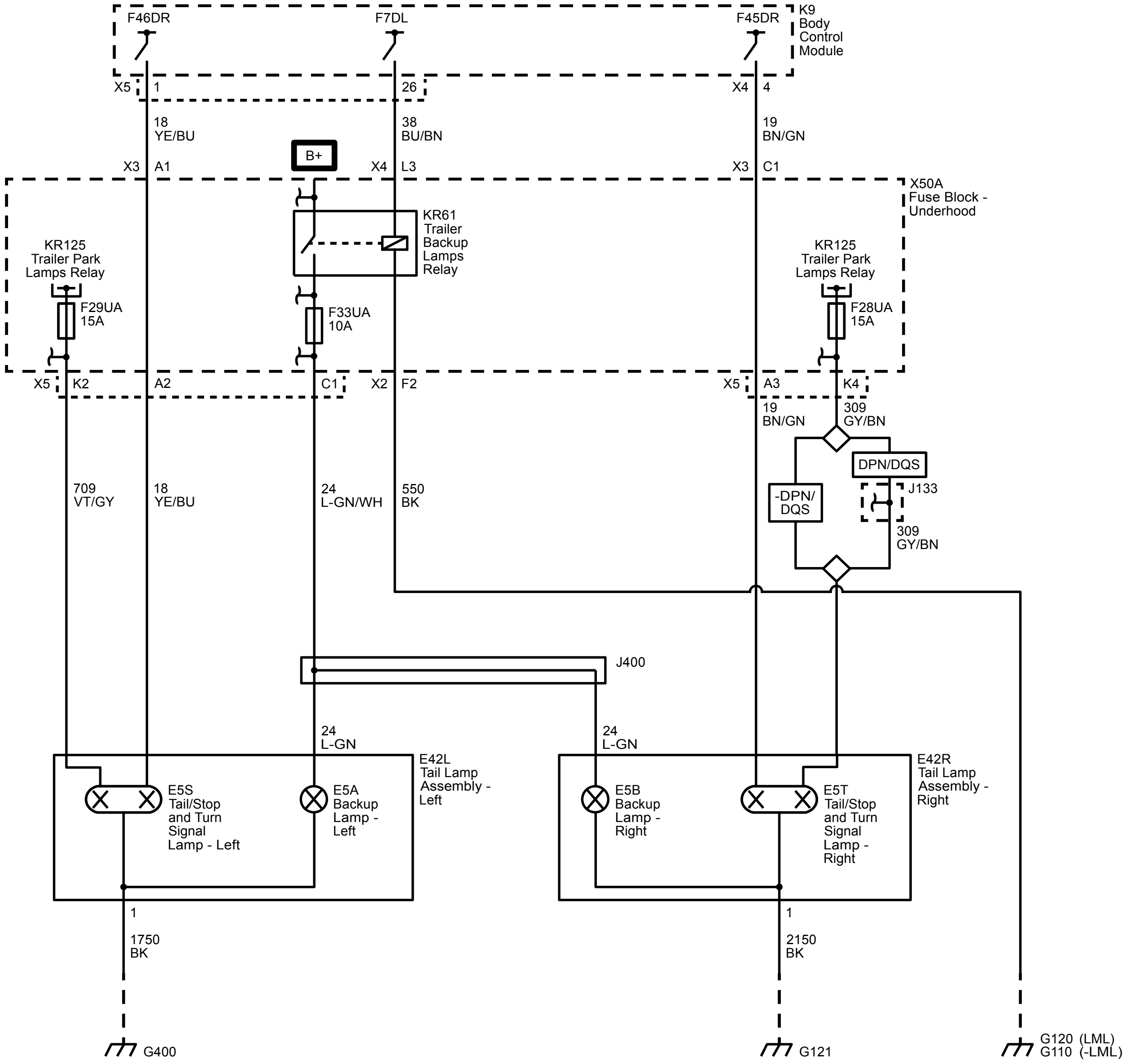
Tail Lamps (LED)


F46DR
F7DL
F45DR
K9
Body
Control
Module
X6 12
X5 1
26
X4 4
X6 22
5356
YE/BK
18
YE/BU
38
BU/BN
19
BN/GN
5357
VT/YE
B+
X4 G6
X3 A1
X4 L3
X3 C1
X4 H6
X50A
Fuse Block -
Underhood
KR125
Trailer Park
Lamps Relay
F29UA
15A
KR61
Trailer
Backup
Lamps
Relay
F33UA
10A
KR125
Trailer Park
Lamps Relay
F28UA
15A
X5 K2
G1
A2
C1
X2 F2
X5 A3
H1
K4
19
BN/GN
5357
VT/YE
309
GY/BN
DPN/DQS
-DPN/
DQS
J133
309
GY/BN
709
VT/GY
5356
YE/BK
18
YE/BU
24
L-GN/WH
J400
24
L-GN/WH
24
L-GN/WH
X410 5
2
1
4
X420 4
5
2
1
709
VT/GY
5356
RD
18
D-GN
24
L-GN/WH
24
L-GN/WH
19
D-GN
5357
RD
309
BN
4
3
2
2
3
4
A90
Logic
E42L
Tail Lamp
Assembly -
Left
E5A
Backup
Lamp -
Left
E5S
Tail/Stop
and Turn
Signal
Lamp - Left
E2LR
Side Marker
Lamp - Left
Rear
E5B
Backup
Lamp -
Right
A90
Logic
E42R
Tail Lamp
Assembly -
Right
E2RR
Side Marker
Lamp -
Right Rear
E5T
Tail/Stop
and Turn
Signal
Lamp -
Right
1
1750
BK
1750
BK
550
BK
2150
BK
2150
BK
1
G400
G110
G121

Tail Lamps (without ZW9 or LED)

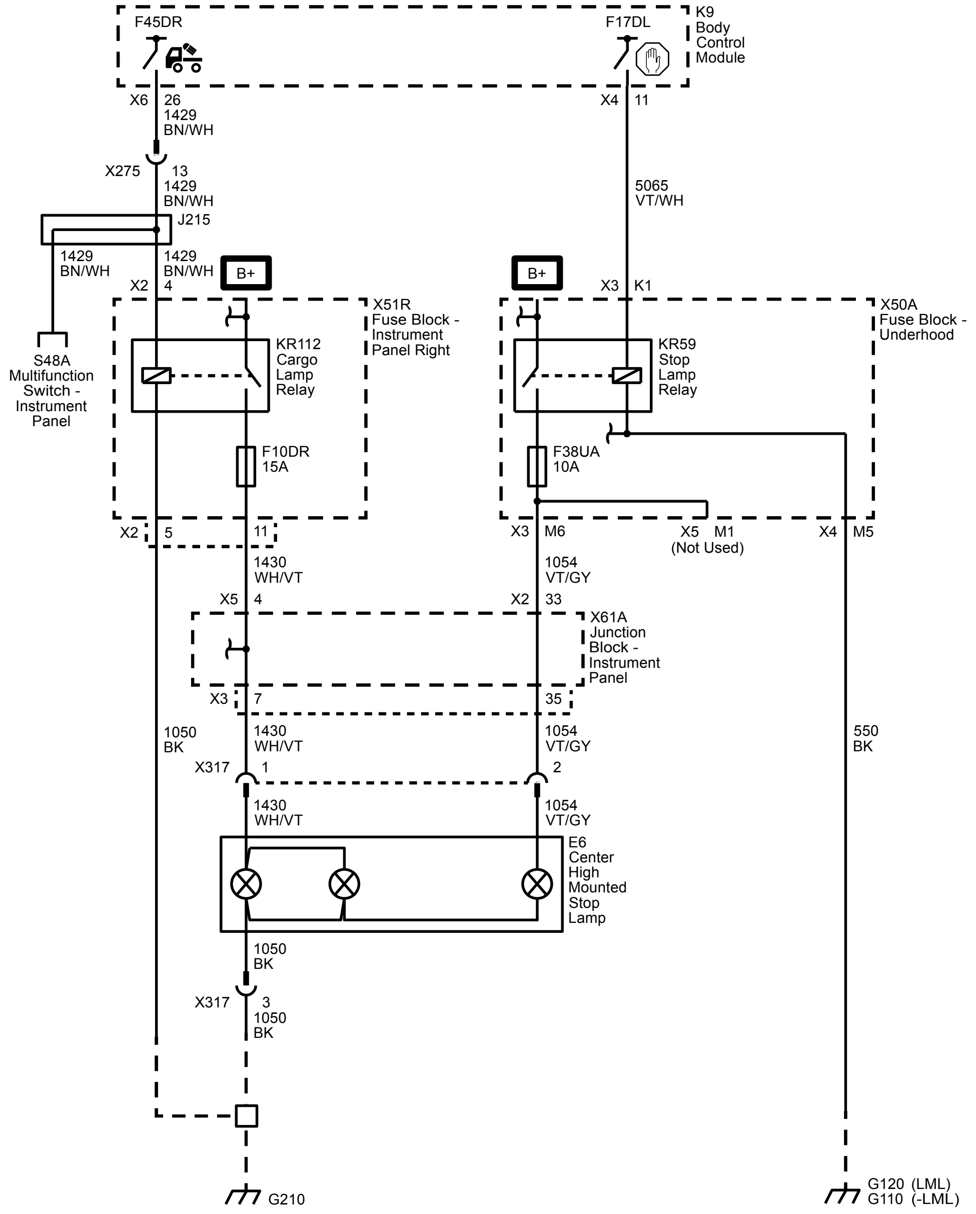

F46DR
F7DL
F45DR
K9 Body Control Module
X5 1
26
X4 4
18 YE/BU
38 BU/BN
19 BN/GN
B+
X3 A1
X4 L3
X3 C1
X50A Fuse Block - Underhood
KR61 Trailer Backup Lamps Relay
KR125 Trailer Park Lamps Relay
F29UA 15A
F33UA 10A
KR125 Trailer Park Lamps Relay
F28UA 15A
X5 K2
A2
C1
X2 F2
X5 A3
K4
19 BN/GN
309 GY/BN
DPN/DQS
-DPN/ DQS
J133
309 GY/BN
709 VT/GY
18 YE/BU
24 L-GN/WH
550 BK
J400
24 L-GN
24 L-GN
E42L Tail Lamp Assembly - Left
1
2
E5AG Tail/Stop and Turn Signal Lamp - Left Upper
3
2
1
E5U Tail/Stop and Turn Signal Lamp - Left Lower
3
A (Z88)
E2LR Side Marker Lamp - Left Rear
B
A
E5A Backup Lamp - Left
B
A
E5B Backup Lamp - Right
B
A (Z88)
E2RR Side Marker Lamp - Right Rear
B
1
2
E5V Tail/Stop and Turn Signal Lamp - Right Lower
3
2
1
E5AH Tail/Stop and Turn Signal Lamp - Right Upper
3
E42R Tail Lamp Assembly - Right
1750 BK
2150 BK
G400
G121
G120 (LML)
G110 (-LML)
LOC
DESC

Tail Lamps (ZW9)

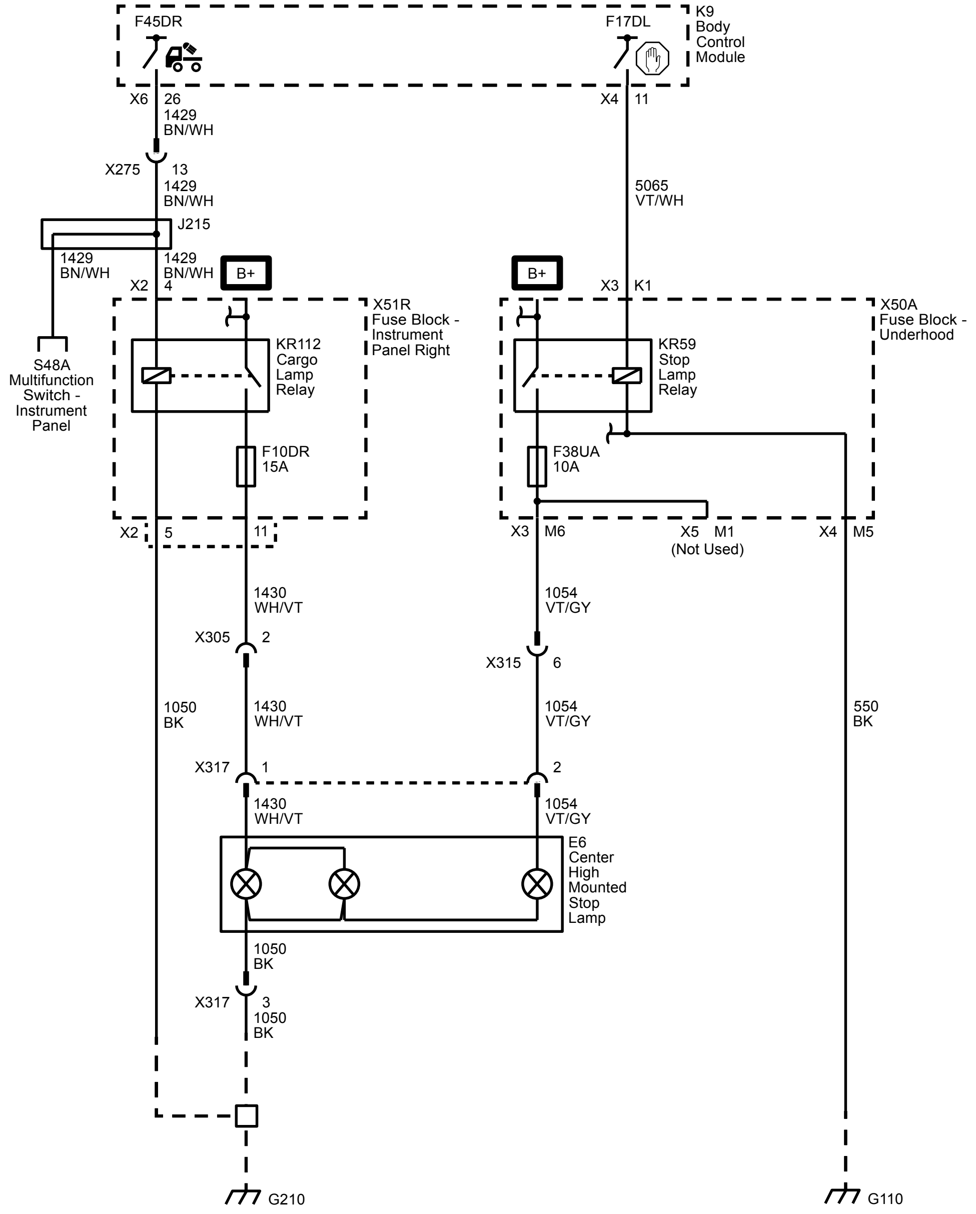

F46DR
F7DL
F45DR
K9
Body
Control
Module
X5
1
26
X4
4
18
YE/BU
38
BU/BN
19
BN/GN
X3
A1
B+
X4
L3
X3
C1
X50A
Fuse Block -
Underhood
KR61
Trailer
Backup
Lamps
Relay
KR125
Trailer Park
Lamps Relay
F29UA
15A
F33UA
10A
KR125
Trailer Park
Lamps Relay
F28UA
15A
X5
K2
A2
C1
X2
F2
X5
A3
K4
19
BN/GN
309
GY/BN
DPN/DQS
-DPN/
DQS
J133
309
GY/BN
709
VT/GY
18
YE/BU
24
L-GN/WH
550
BK
J400
24
L-GN
24
L-GN
E42L
Tail Lamp
Assembly -
Left
E5S
Tail/Stop
and Turn
Signal
Lamp - Left
E5A
Backup
Lamp -
Left
E5B
Backup
Lamp -
Right
E5T
Tail/Stop
and Turn
Signal
Lamp -
Right
E42R
Tail Lamp
Assembly -
Right
1
1750
BK
1
2150
BK
G400
G121
G120 (LML)
G110 (-LML)

LOC
DESC

Roof Cargo and Center High Mounted Stop Lamps (except E29)

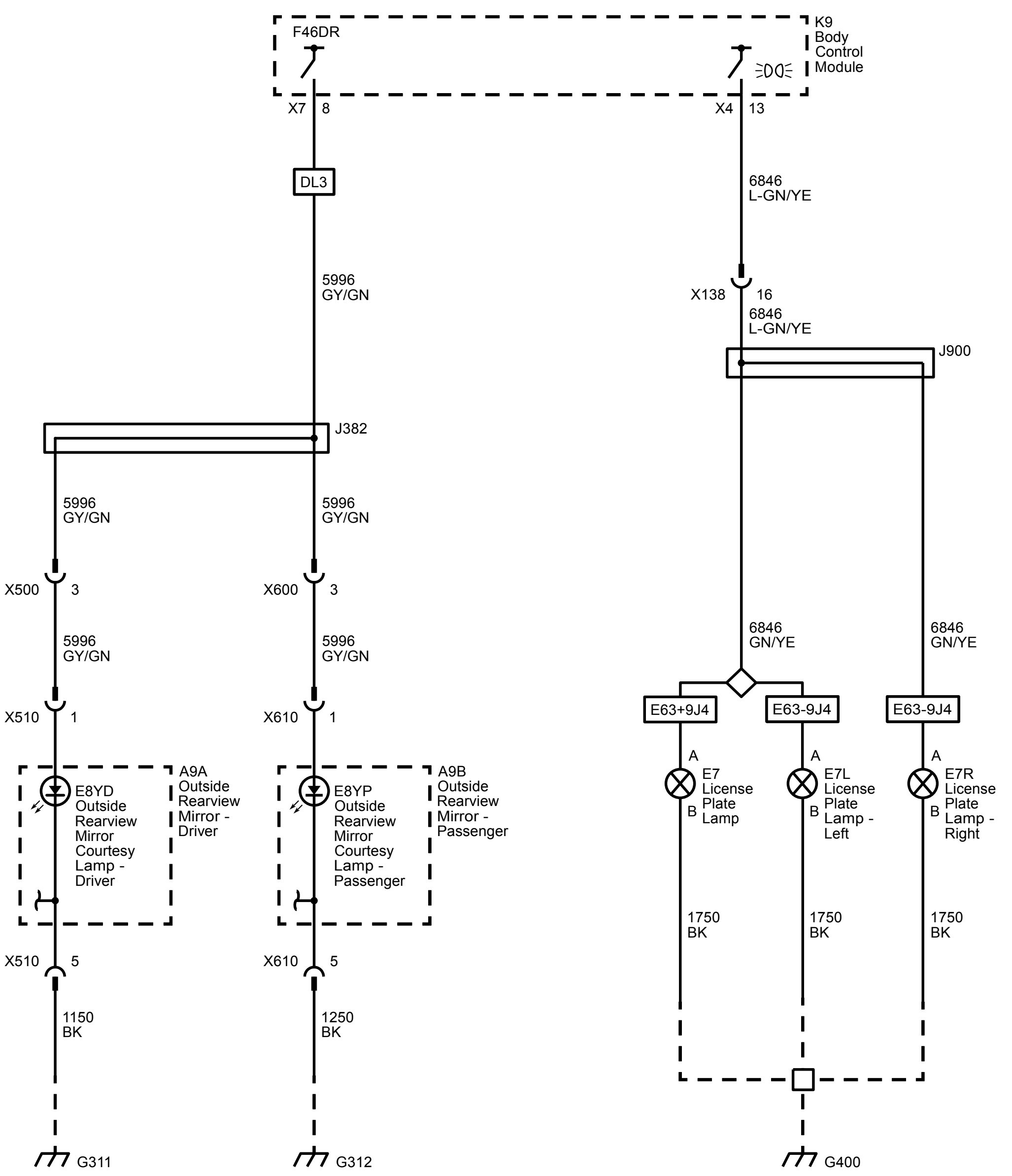

F45DR
F17DL
K9
Body
Control
Module
X6 26
1429
BN/WH
X4 11
X275 13
1429
BN/WH
5065
VT/WH
J215
1429
BN/WH
1429
BN/WH
X2 4
B+
B+
X3 K1
X51R
Fuse Block -
Instrument
Panel Right
X50A
Fuse Block -
Underhood
S48A
Multifunction
Switch -
Instrument
Panel
KR112
Cargo
Lamp
Relay
KR59
Stop
Lamp
Relay
F10DR
15A
F38UA
10A
X2 5
11
X3 M6
X5 M1
(Not Used)
X4 M5
1430
WH/VT
1054
VT/GY
X5 4
X2 33
X61A
Junction
Block -
Instrument
Panel
X3 7
35
1050
BK
1430
WH/VT
1054
VT/GY
550
BK
X317 1
2
1430
WH/VT
1054
VT/GY
E6
Center
High
Mounted
Stop
Lamp
1050
BK
X317 3
1050
BK
G210
G120 (LML)
G110 (-LML)

Roof Cargo and Center High Mounted Stop Lamps (E29)

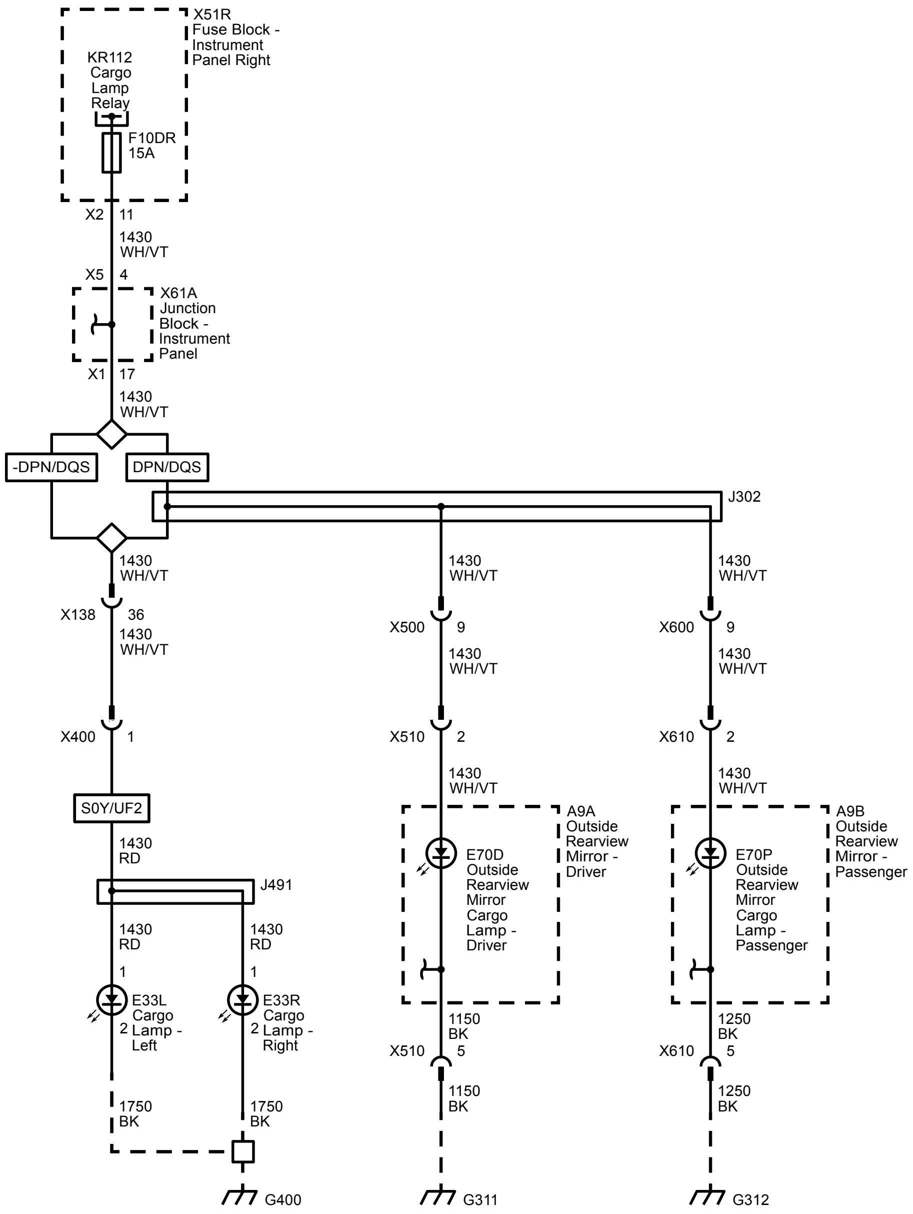

F45DR
F17DL
K9
Body
Control
Module
X6
26
1429
BN/WH
X4
11
X275
13
1429
BN/WH
5065
VT/WH
J215
1429
BN/WH
1429
BN/WH
X2
4
B+
B+
X3
K1
X51R
Fuse Block -
Instrument
Panel Right
X50A
Fuse Block -
Underhood
S48A
Multifunction
Switch -
Instrument
Panel
KR112
Cargo
Lamp
Relay
KR59
Stop
Lamp
Relay
F10DR
15A
F38UA
10A
X2
5
11
X3
M6
X5
M1
(Not Used)
X4
M5
1430
WH/VT
1054
VT/GY
X305
2
X315
6
1050
BK
1430
WH/VT
1054
VT/GY
550
BK
X317
1
2
1430
WH/VT
1054
VT/GY
E6
Center
High
Mounted
Stop
Lamp
1050
BK
X317
3
1050
BK
G210
G110

LOC
DESC
→
←

Mirror Courtesy Lamps (DL3) and License Plate Lamps

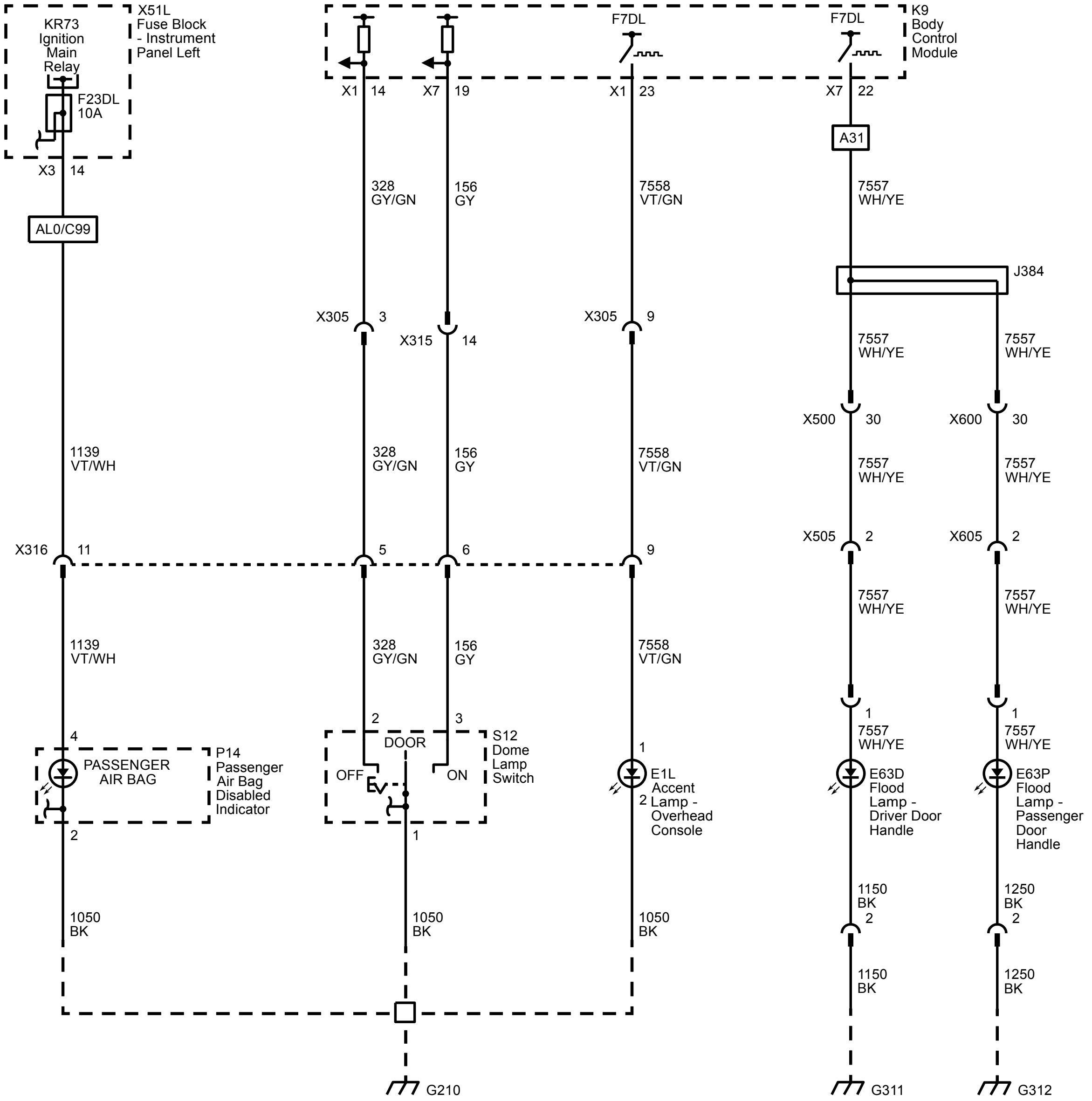

F46DR
K9
Body
Control
Module
X7
8
X4
13
DL3
6846
L-GN/YE
5996
GY/GN
X138
16
6846
L-GN/YE
J900
J382
5996
GY/GN
5996
GY/GN
X500
3
X600
3
5996
GY/GN
5996
GY/GN
6846
GN/YE
6846
GN/YE
X510
1
X610
1
E63+9J4
E63-9J4
E63-9J4
A9A
Outside
Rearview
Mirror -
Driver
E8YD
Outside
Rearview
Mirror
Courtesy
Lamp -
Driver
A9B
Outside
Rearview
Mirror -
Passenger
E8YP
Outside
Rearview
Mirror
Courtesy
Lamp -
Passenger
A
B
E7
License
Plate
Lamp
A
B
E7L
License
Plate
Lamp -
Left
A
B
E7R
License
Plate
Lamp -
Right
1750
BK
1750
BK
1750
BK
X510
5
X610
5
1150
BK
1250
BK
G311
G312
G400

Mirror Cargo Lamps (DPN or DQS) and Cargo Box Lamps (S0Y or UF2)


X51R
Fuse Block - Instrument Panel Right
KR112 Cargo Lamp Relay
F10DR 15A
X2 11
1430 WH/VT
X5 4
X61A Junction Block - Instrument Panel
X1 17
1430 WH/VT
-DPN/DQS
DPN/DQS
J302
1430 WH/VT
X138 36
1430 WH/VT
X400 1
S0Y/UF2
1430 RD
J491
1430 RD
1430 RD
1
1
E33L Cargo Lamp - Left
2
E33R Cargo Lamp - Right
2
1750 BK
1750 BK
G400
1430 WH/VT
X500 9
1430 WH/VT
X510 2
1430 WH/VT
A9A Outside Rearview Mirror - Driver
E70D Outside Rearview Mirror Cargo Lamp - Driver
1150 BK
X510 5
1150 BK
G311
1430 WH/VT
X600 9
1430 WH/VT
X610 2
1430 WH/VT
A9B Outside Rearview Mirror - Passenger
E70P Outside Rearview Mirror Cargo Lamp - Passenger
1250 BK
X610 5
1250 BK
G312

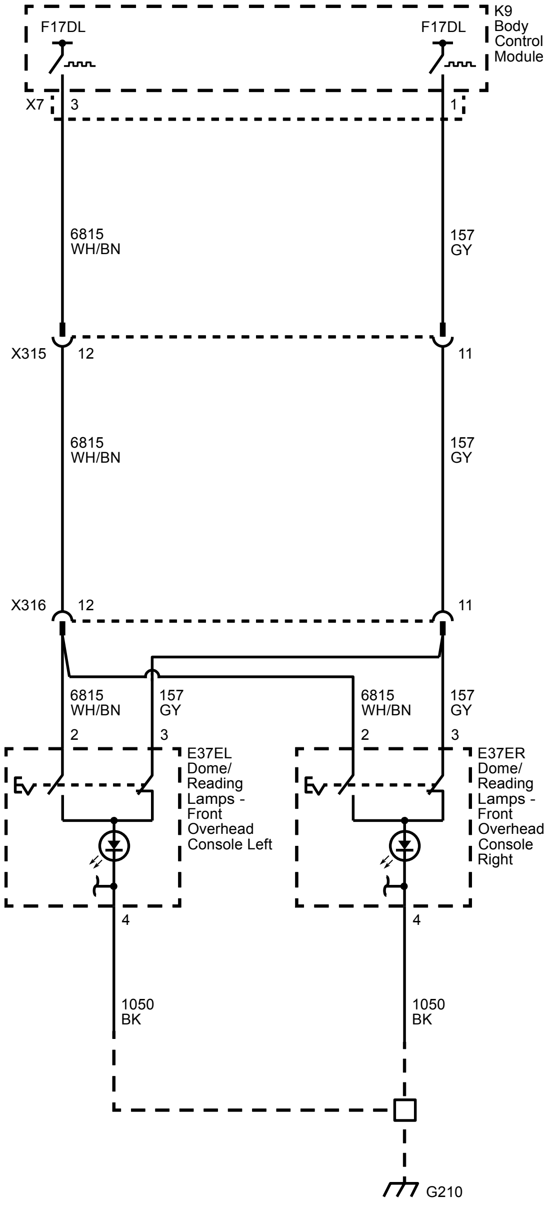
Interior Lights Schematics (E29)

Controls and Flood Lamps (E29)



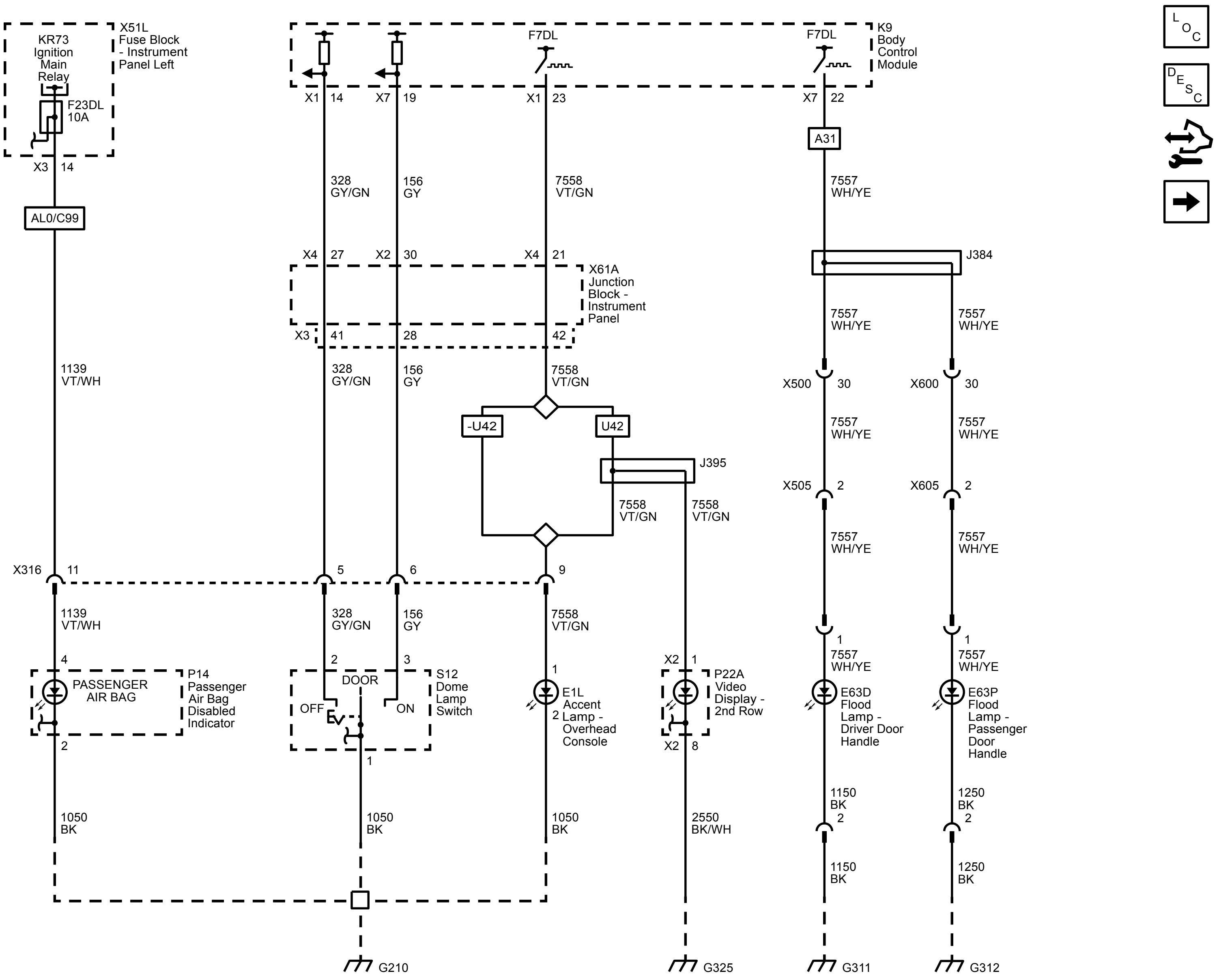
KR73 Ignition Main Relay
X51L Fuse Block - Instrument Panel Left
F23DL 10A
X3 14
AL0/C99
1139 VT/WH
X316 11
1139 VT/WH
4
PASSENGER AIR BAG
P14 Passenger Air Bag Disabled Indicator
2
1050 BK
X1 14
X7 19
F7DL
X1 23
F7DL
X7 22
K9 Body Control Module
A31
328 GY/GN
156 GY
7558 VT/GN
7557 WH/YE
J384
X305 3
X315 14
X305 9
328 GY/GN
156 GY
7558 VT/GN
5
6
9
328 GY/GN
156 GY
7558 VT/GN
2
3
DOOR
OFF
ON
S12 Dome Lamp Switch
1
1050 BK
1
E1L Accent Lamp - Overhead Console
2
1050 BK
7557 WH/YE
7557 WH/YE
X500 30
X600 30
7557 WH/YE
7557 WH/YE
X505 2
X605 2
7557 WH/YE
7557 WH/YE
1
1
7557 WH/YE
7557 WH/YE
E63D Flood Lamp - Driver Door Handle
E63P Flood Lamp - Passenger Door Handle
1150 BK 2
1250 BK 2
1150 BK
1250 BK
G210
G311
G312

Overhead Lamps (E29)


F17DL
F17DL
K9
Body
Control
Module
X7
3
1
6815
WH/BN
157
GY
X315
12
11
6815
WH/BN
157
GY
X316
12
11
6815
WH/BN
157
GY
6815
WH/BN
157
GY
2
3
2
3
E37EL
Dome/
Reading
Lamps -
Front
Overhead
Console Left
E37ER
Dome/
Reading
Lamps -
Front
Overhead
Console
Right
4
4
1050
BK
1050
BK
G210

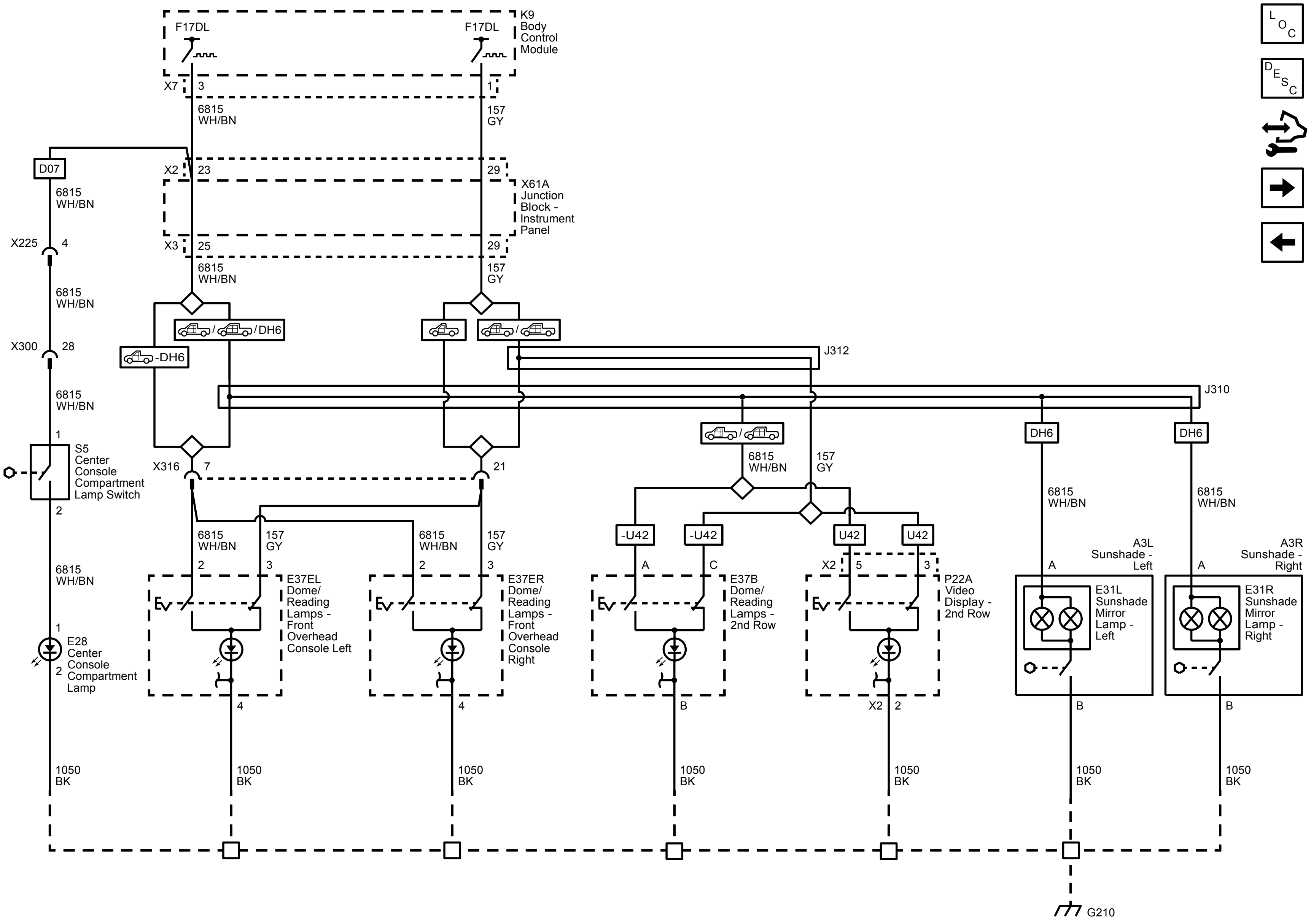
Interior Lights Schematics (without E29)

Controls and Flood Lamps (without E29)



KR73 Ignition Main Relay
X51L Fuse Block - Instrument Panel Left
F23DL 10A
X3 14
AL0/C99
1139 VT/WH
F7DL
F7DL
K9 Body Control Module
X1 14
X7 19
X1 23
X7 22
A31
328 GY/GN
156 GY
7558 VT/GN
7557 WH/YE
X4 27
X2 30
X4 21
X61A Junction Block - Instrument Panel
X3 41
28
42
J384
X500 30
X600 30
-U42
U42
J395
X505 2
X605 2
X316 11
5
6
9
PASSENGER AIR BAG
P14 Passenger Air Bag Disabled Indicator
DOOR
OFF
ON
S12 Dome Lamp Switch
E1L Accent Lamp - Overhead Console
X2 1
P22A Video Display - 2nd Row
X2 8
E63D Flood Lamp - Driver Door Handle
E63P Flood Lamp - Passenger Door Handle
1050 BK
2550 BK/WH
1150 BK
1250 BK
G210
G325
G311
G312

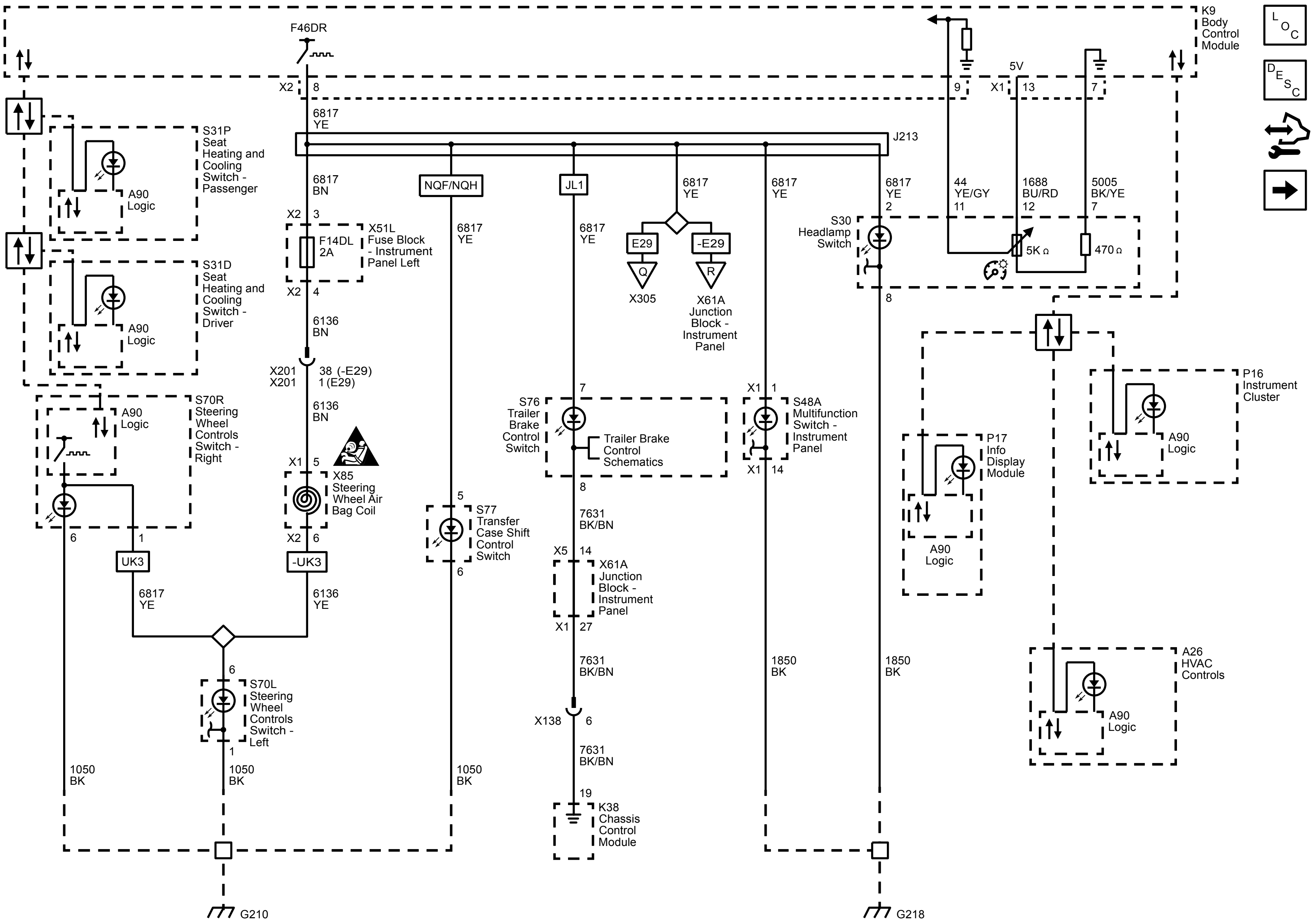
Floor Console Compartment and Overhead Lamps (without E29)



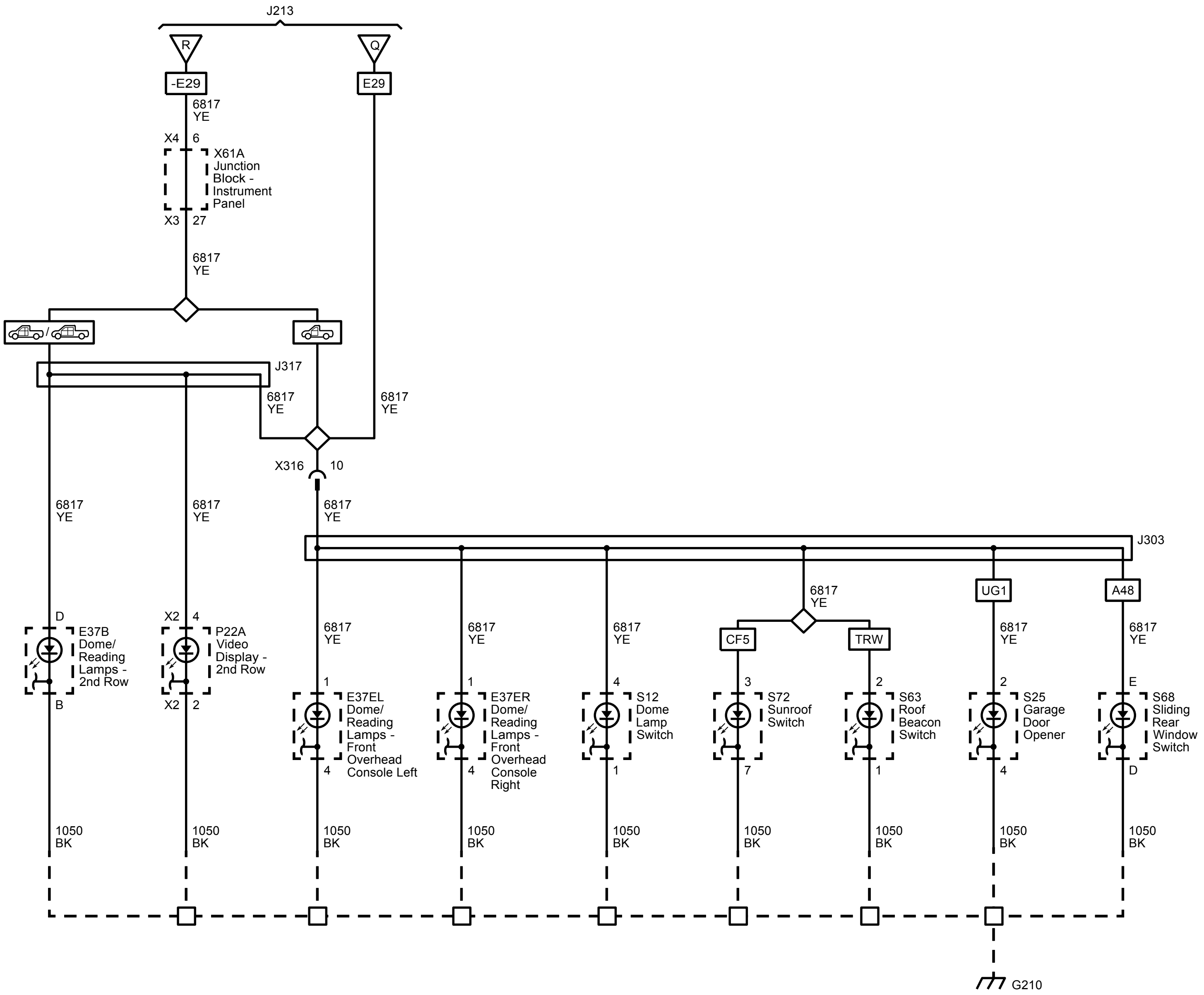
F17DL
F17DL
K9 Body Control Module
X7
3
1
6815 WH/BN
157 GY
D07
X2
23
29
X61A Junction Block - Instrument Panel
X3
25
29
6815 WH/BN
157 GY
6815 WH/BN
X225
4
6815 WH/BN
X300
28
/DH6
-DH6
/
J312
J310
6815 WH/BN
1
S5 Center Console Compartment Lamp Switch
2
X316
7
21
DH6
DH6
6815 WH/BN
157 GY
6815 WH/BN
6815 WH/BN
-U42
-U42
U42
U42
6815 WH/BN
157 GY
6815 WH/BN
157 GY
2
3
2
3
A
C
X2
5
3
A
A
A3L Sunshade - Left
A3R Sunshade - Right
6815 WH/BN
E37EL Dome/ Reading Lamps - Front Overhead Console Left
E37ER Dome/ Reading Lamps - Front Overhead Console Right
E37B Dome/ Reading Lamps - 2nd Row
P22A Video Display - 2nd Row
E31L Sunshade Mirror Lamp - Left
E31R Sunshade Mirror Lamp - Right
1
E28 Center Console Compartment Lamp
2
4
4
B
X2
2
B
B
1050 BK
1050 BK
1050 BK
1050 BK
1050 BK
1050 BK
1050 BK
G210

Interior Lights Dimming Schematics

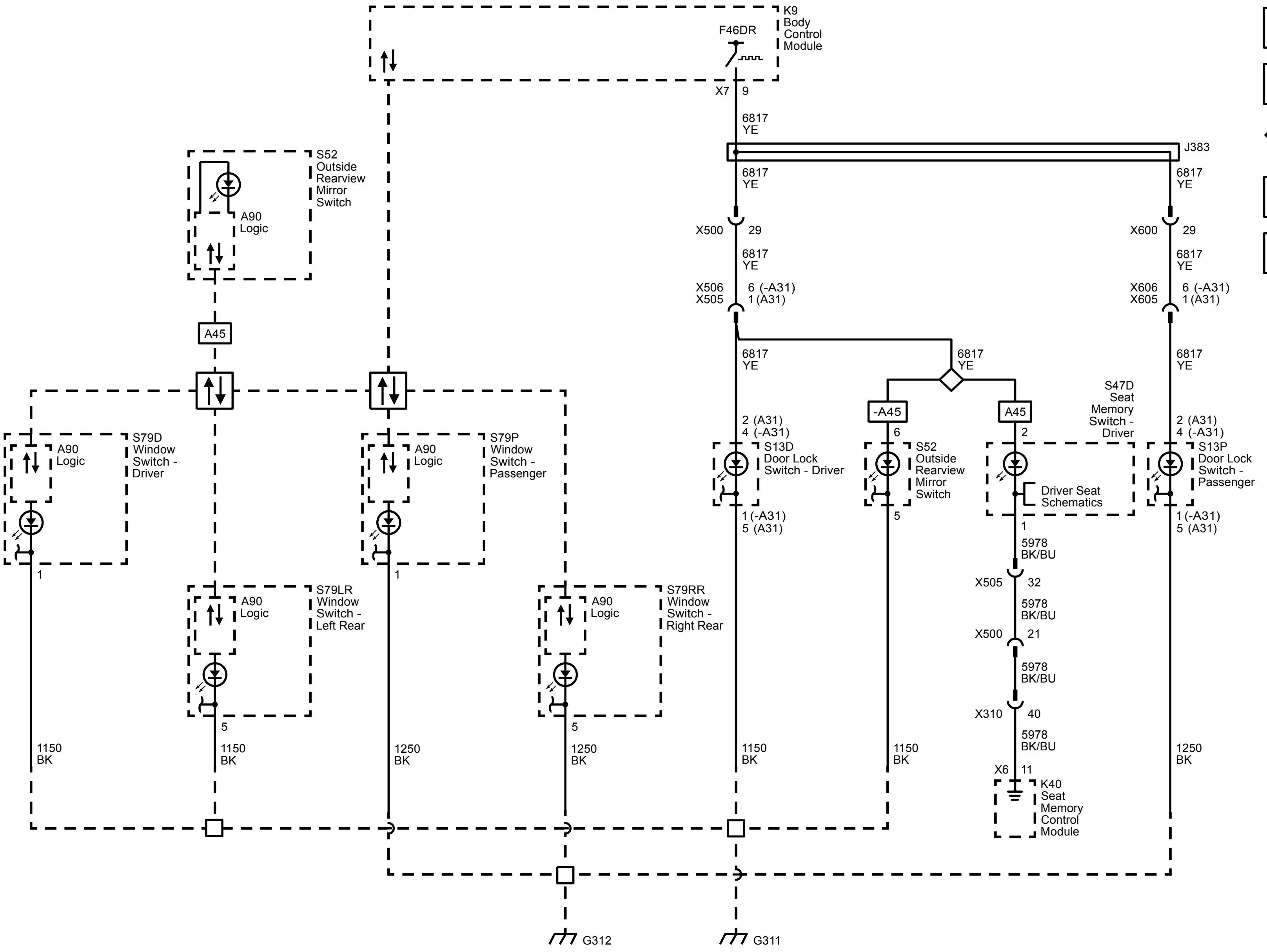
Controls and Backlight - Instrument Panel


F46DR
X2 8
6817 YE
J213
K9 Body Control Module
9
X1 13
7
5V
S31P Seat Heating and Cooling Switch - Passenger
A90 Logic
S31D Seat Heating and Cooling Switch - Driver
A90 Logic
6817 BN
X2 3
X51L Fuse Block - Instrument Panel Left
F14DL 2A
X2 4
6136 BN
NQF/NQH
6817 YE
JL1
6817 YE
6817 YE
E29
-E29
Q
R
X305
X61A Junction Block - Instrument Panel
6817 YE
6817 YE 2
44 YE/GY 11
1688 BU/RD 12
5005 BK/YE 7
S30 Headlamp Switch
5K Ω
470 Ω
8
X201 38 (-E29)
X201 1 (E29)
6136 BN
S70R Steering Wheel Controls Switch - Right
A90 Logic
X1 5
X85 Steering Wheel Air Bag Coil
X2 6
6 1
UK3
-UK3
6817 YE
6136 YE
5
S77 Transfer Case Shift Control Switch
6
7
S76 Trailer Brake Control Switch
Trailer Brake Control Schematics
8
7631 BK/BN
X5 14
X61A Junction Block - Instrument Panel
X1 27
7631 BK/BN
X138 6
7631 BK/BN
19
K38 Chassis Control Module
X1 1
S48A Multifunction Switch - Instrument Panel
X1 14
1850 BK
1850 BK
P17 Info Display Module
A90 Logic
P16 Instrument Cluster
A90 Logic
A26 HVAC Controls
A90 Logic
6
S70L Steering Wheel Controls Switch - Left
1
1050 BK
1050 BK
1050 BK
G210
G218
L O C
D E S C

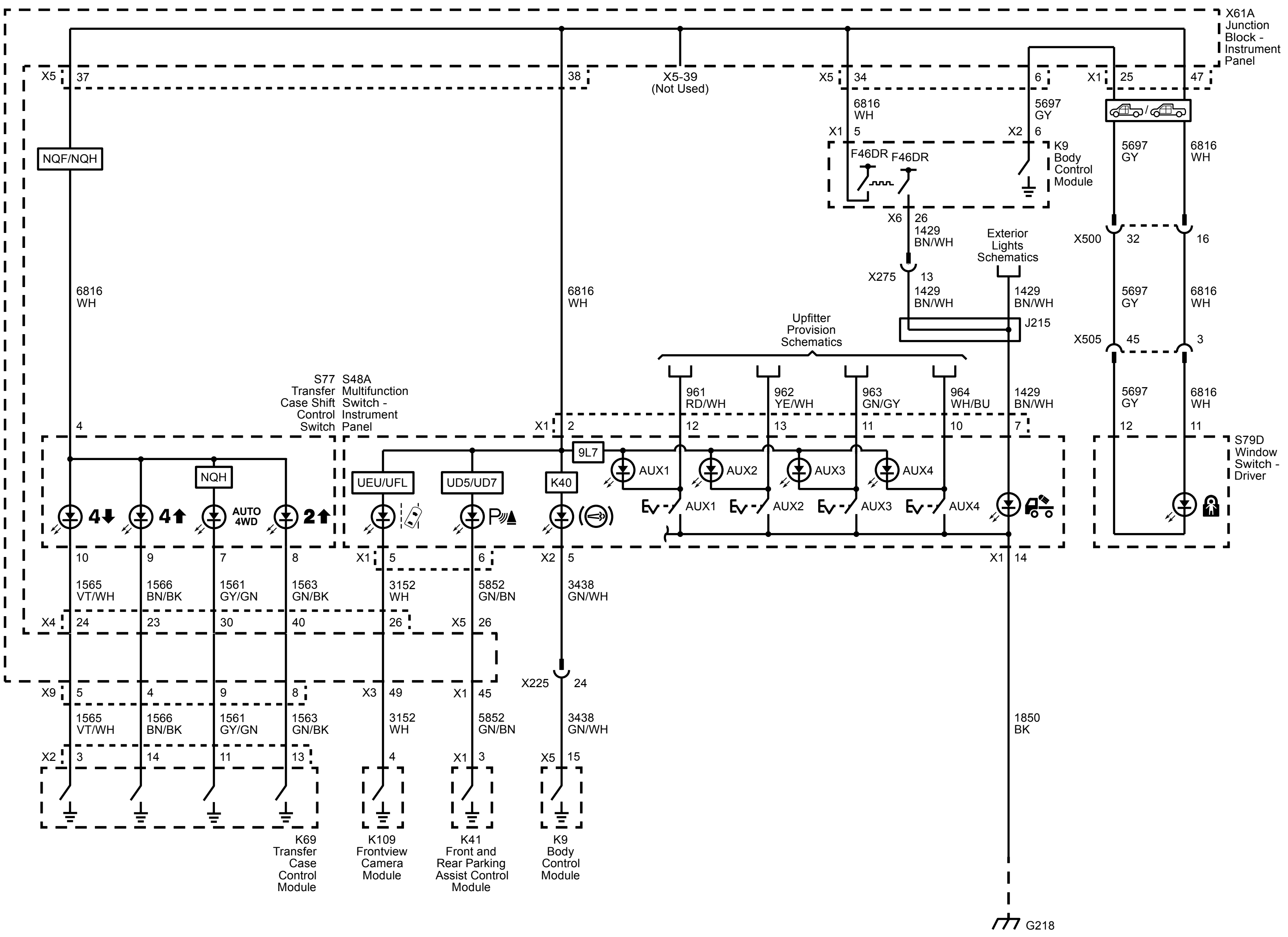
Backlight - Overhead Lamps


J213
R
Q
-E29
E29
6817
YE
X4
6
X61A
Junction
Block -
Instrument
Panel
X3
27
6817
YE
J317
6817
YE
6817
YE
X316
10
6817
YE
6817
YE
6817
YE
J303
6817
YE
UG1
A48
CF5
TRW
D
E37B
Dome/
Reading
Lamps -
2nd Row
B
X2
4
P22A
Video
Display -
2nd Row
X2
2
6817
YE
1
E37EL
Dome/
Reading
Lamps -
Front
Overhead
Console Left
4
6817
YE
1
E37ER
Dome/
Reading
Lamps -
Front
Overhead
Console
Right
4
6817
YE
4
S12
Dome
Lamp
Switch
1
3
S72
Sunroof
Switch
7
2
S63
Roof
Beacon
Switch
1
6817
YE
2
S25
Garage
Door
Opener
4
6817
YE
E
S68
Sliding
Rear
Window
Switch
D
1050
BK
1050
BK
1050
BK
1050
BK
1050
BK
1050
BK
1050
BK
1050
BK
1050
BK
G210

Backlight - Doors

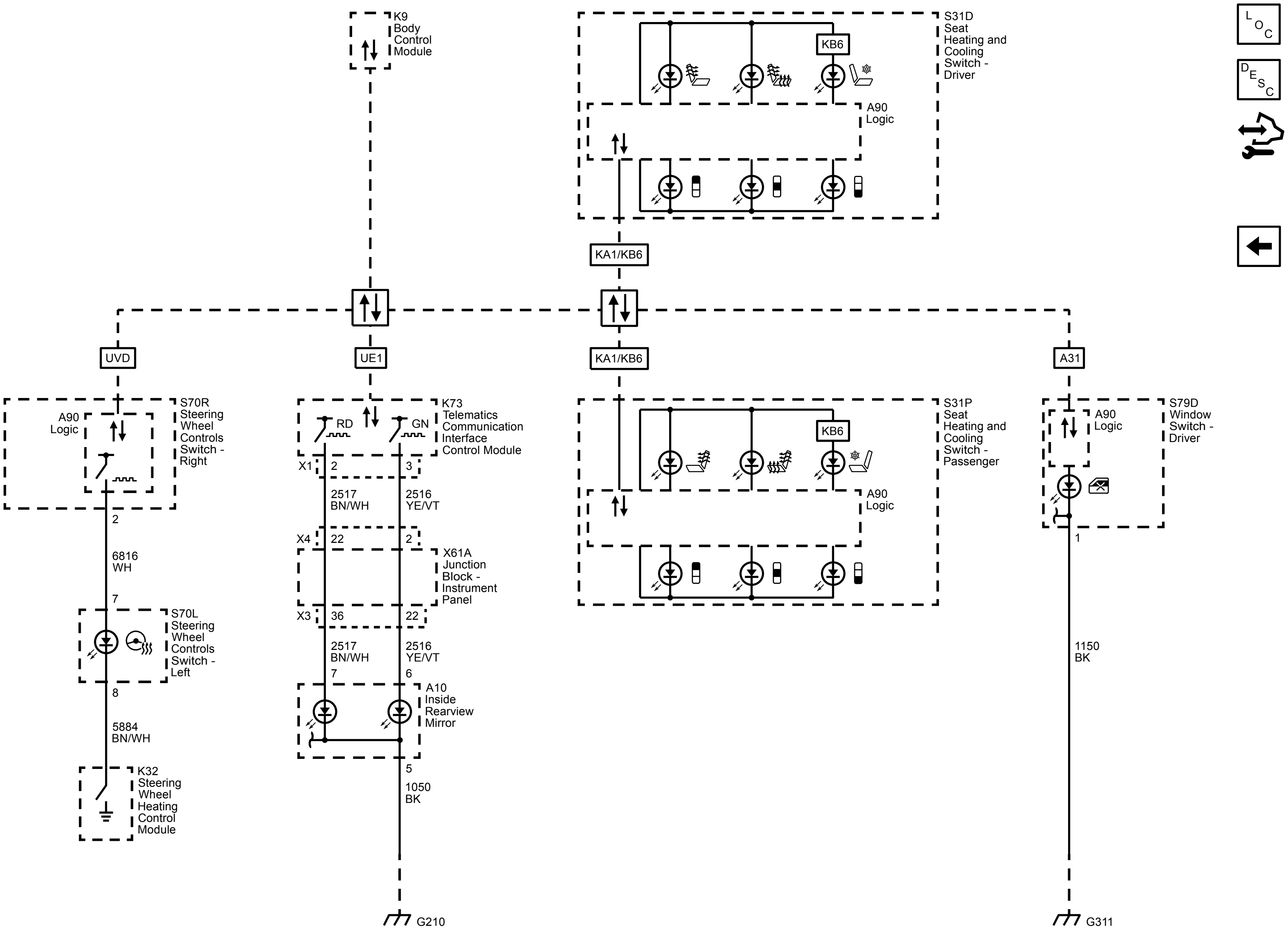

K9
Body
Control
Module
F46DR
X7
9
6817
YE
J383
6817
YE
6817
YE
X500
29
X600
29
6817
YE
6817
YE
X506
X505
6 (-A31)
1 (A31)
X606
X605
6 (-A31)
1 (A31)
6817
YE
6817
YE
6817
YE
S52
Outside
Rearview
Mirror
Switch
A90
Logic
A45
-A45
A45
6
2
S47D
Seat
Memory
Switch -
Driver
2 (A31)
4 (-A31)
2 (A31)
4 (-A31)
S13D
Door Lock
Switch - Driver
S52
Outside
Rearview
Mirror
Switch
Driver Seat
Schematics
S13P
Door Lock
Switch -
Passenger
1 (-A31)
5 (A31)
5
1
1 (-A31)
5 (A31)
A90
Logic
S79D
Window
Switch -
Driver
A90
Logic
S79P
Window
Switch -
Passenger
1
1
5978
BK/BU
X505
32
5978
BK/BU
X500
21
5978
BK/BU
X310
40
5978
BK/BU
X6
11
K40
Seat
Memory
Control
Module
A90
Logic
S79LR
Window
Switch -
Left Rear
A90
Logic
S79RR
Window
Switch -
Right Rear
5
5
1150
BK
1150
BK
1250
BK
1250
BK
1150
BK
1150
BK
1250
BK
G312
G311

Indicators - Discrete


X61A Junction Block - Instrument Panel
X5 37
38
X5-39 (Not Used)
X5 34
6
X1 25
47
6816 WH
5697 GY
X1 5
X2 6
F46DR
F46DR
K9 Body Control Module
5697 GY
6816 WH
X6 26
1429 BN/WH
Exterior Lights Schematics
X500 32
16
X275 13
1429 BN/WH
1429 BN/WH
J215
5697 GY
6816 WH
X505 45
3
NQF/NQH
6816 WH
6816 WH
Upfitter Provision Schematics
961 RD/WH
962 YE/WH
963 GN/GY
964 WH/BU
1429 BN/WH
5697 GY
6816 WH
S77 Transfer Case Shift Control Switch
S48A Multifunction Switch - Instrument Panel
4
X1 2
12
13
11
10
7
12
11
S79D Window Switch - Driver
9L7
AUX1
AUX2
AUX3
AUX4
NQH
UEU/UFL
UD5/UD7
K40
4
4
AUTO 4WD
2
AUX1
AUX2
AUX3
AUX4
10
9
7
8
X1 5
6
X2 5
X1 14
1565 VT/WH
1566 BN/BK
1561 GY/GN
1563 GN/BK
3152 WH
5852 GN/BN
3438 GN/WH
X4 24
23
30
40
26
X5 26
X225 24
X9 5
4
9
8
X3 49
X1 45
1565 VT/WH
1566 BN/BK
1561 GY/GN
1563 GN/BK
3152 WH
5852 GN/BN
3438 GN/WH
1850 BK
X2 3
14
11
13
4
X1 3
X5 15
K69 Transfer Case Control Module
K109 Frontview Camera Module
K41 Front and Rear Parking Assist Control Module
K9 Body Control Module
G218

L O C

D E S C


K9
Body
Control
Module
S31D
Seat
Heating and
Cooling
Switch -
Driver
KB6
A90
Logic
KA1/KB6
UVD
UE1
KA1/KB6
A31
A90
Logic
S70R
Steering
Wheel
Controls
Switch -
Right
RD
GN
K73
Telematics
Communication
Interface
Control Module
X1
2
3
2517
BN/WH
2516
YE/VT
X4
22
2
X61A
Junction
Block -
Instrument
Panel
X3
36
22
2517
BN/WH
2516
YE/VT
7
6
A10
Inside
Rearview
Mirror
5
1050
BK
G210
2
6816
WH
7
S70L
Steering
Wheel
Controls
Switch -
Left
8
5884
BN/WH
K32
Steering
Wheel
Heating
Control
Module
S31P
Seat
Heating and
Cooling
Switch -
Passenger
KB6
A90
Logic
A90
Logic
S79D
Window
Switch -
Driver
1
1150
BK
G311
L O C
D E S C

Description and Operation

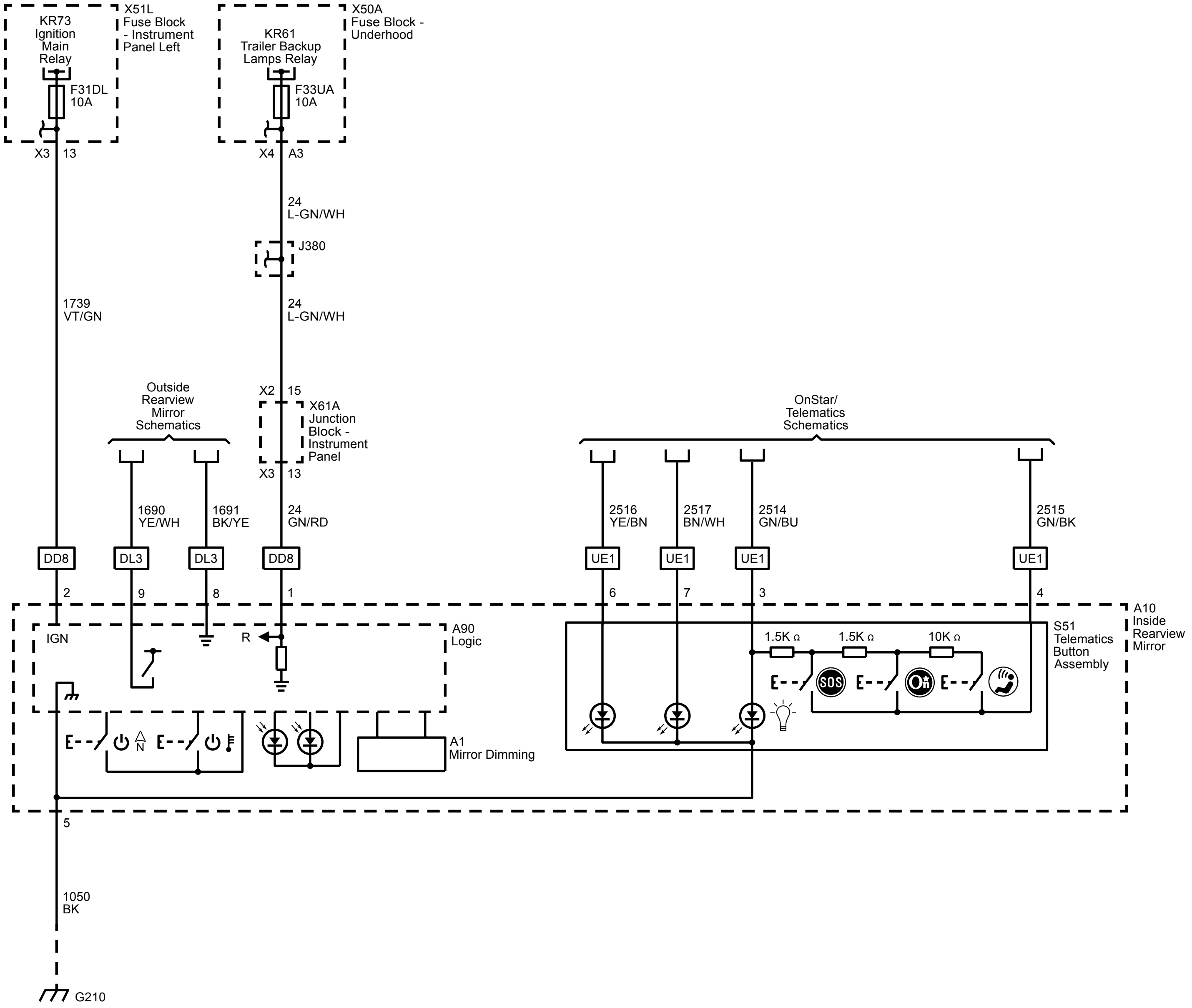
Body Systems

Mirrors

Schematic and Routing Diagrams

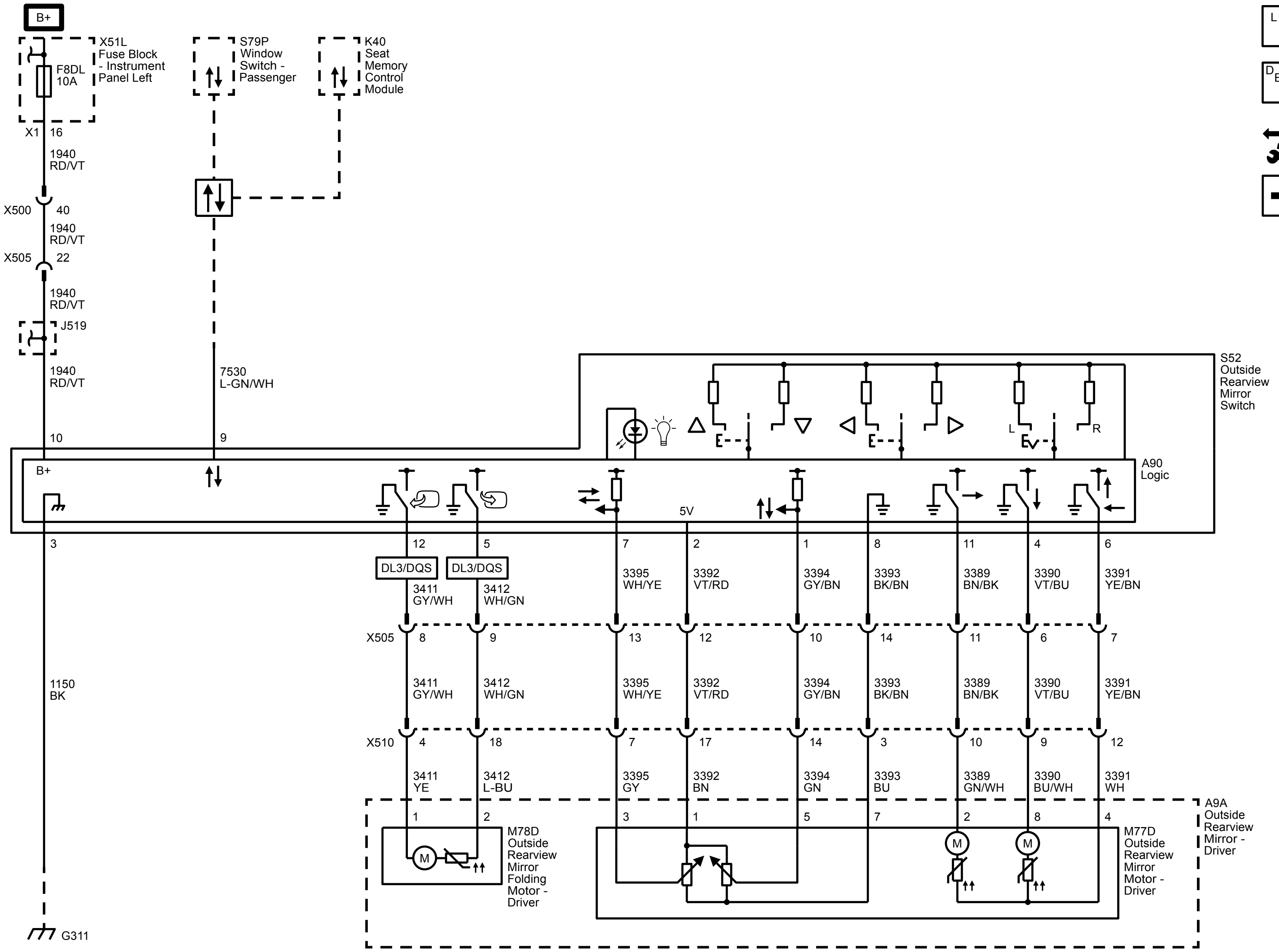
Inside Rearview Mirror Schematics

Inside Rearview Mirror

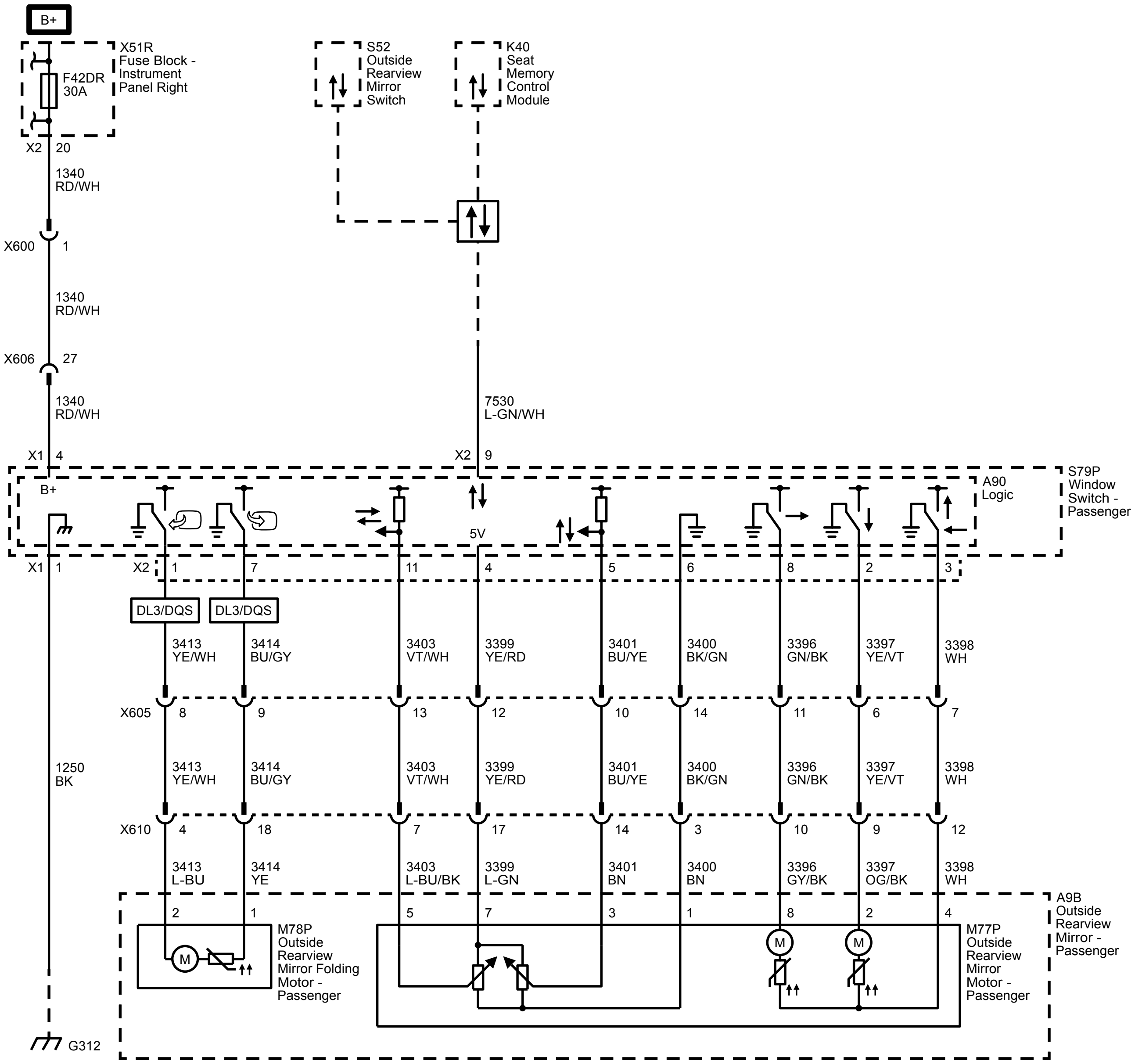

X51L
Fuse Block - Instrument Panel Left
KR73
Ignition Main Relay
F31DL
10A
X3
13
X50A
Fuse Block - Underhood
KR61
Trailer Backup Lamps Relay
F33UA
10A
X4
A3
24
L-GN/WH
J380
24
L-GN/WH
1739
VT/GN
Outside Rearview Mirror Schematics
X2
15
X61A
Junction Block - Instrument Panel
X3
13
OnStar/ Telematics Schematics
1690
YE/WH
1691
BK/YE
24
GN/RD
2516
YE/BN
2517
BN/WH
2514
GN/BU
2515
GN/BK
DD8
DL3
DL3
DD8
UE1
UE1
UE1
UE1
2
9
8
1
6
7
3
4
A10
Inside Rearview Mirror
IGN
R
A90
Logic
S51
Telematics Button Assembly
1.5K Ω
1.5K Ω
10K Ω
SOS
A1
Mirror Dimming
5
1050
BK
G210

Outside Rearview Mirror Schematics

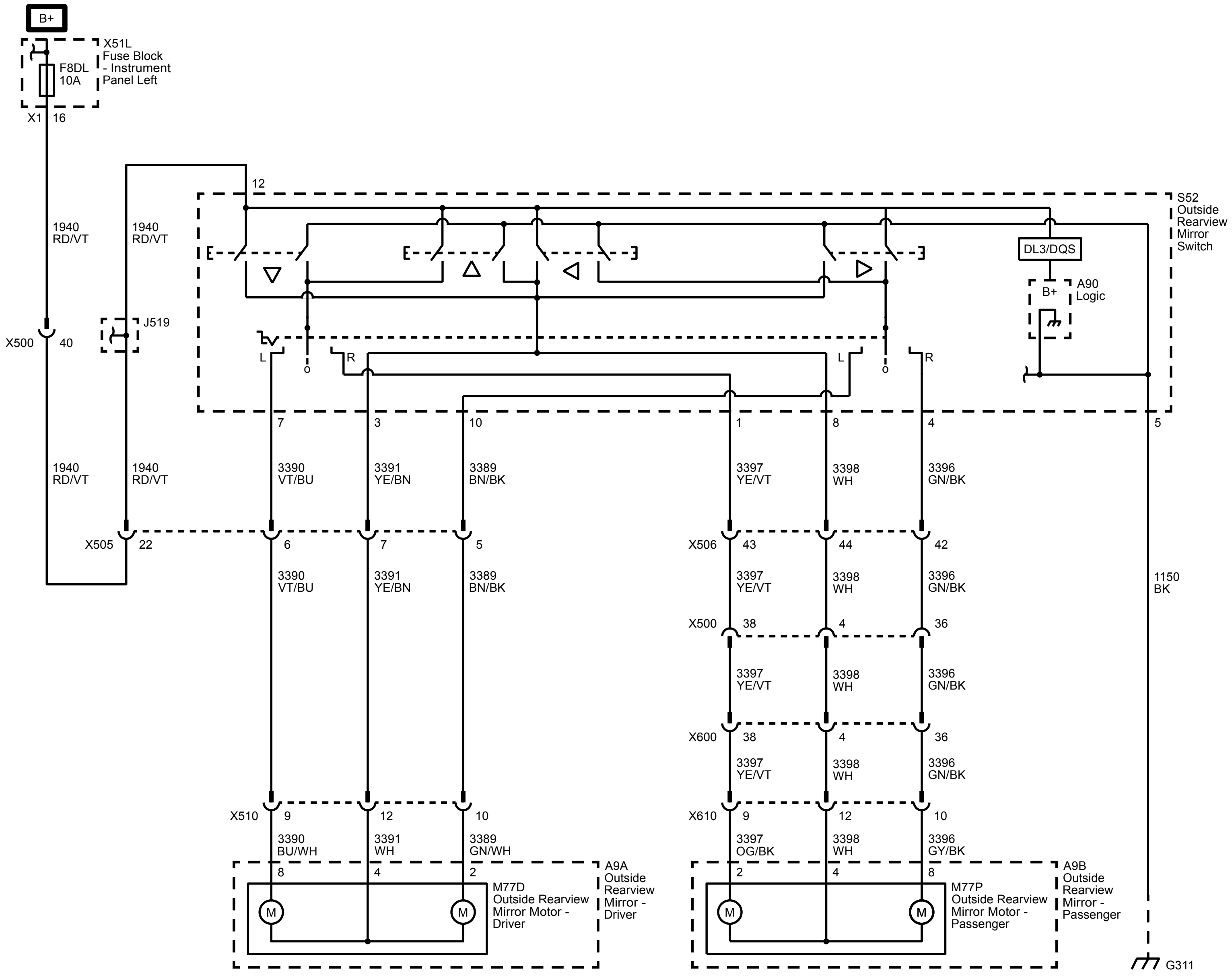
Controls and Driver (A45)


B+
X51L Fuse Block - Instrument Panel Left
F8DL 10A
X1 16
1940 RD/VT
X500 40
1940 RD/VT
X505 22
1940 RD/VT
J519
1940 RD/VT
10
S79P Window Switch - Passenger
K40 Seat Memory Control Module
7530 L-GN/WH
9
S52 Outside Rearview Mirror Switch
L
R
A90 Logic
B+
5V
3
1150 BK
G311
12
5
DL3/DQS
DL3/DQS
3411 GY/WH
3412 WH/GN
7
2
1
8
11
4
6
3395 WH/YE
3392 VT/RD
3394 GY/BN
3393 BK/BN
3389 BN/BK
3390 VT/BU
3391 YE/BN
X505 8 9 13 12 10 14 11 6 7
3411 GY/WH
3412 WH/GN
3395 WH/YE
3392 VT/RD
3394 GY/BN
3393 BK/BN
3389 BN/BK
3390 VT/BU
3391 YE/BN
X510 4 18 7 17 14 3 10 9 12
3411 YE
3412 L-BU
3395 GY
3392 BN
3394 GN
3393 BU
3389 GN/WH
3390 BU/WH
3391 WH
1 2 3 1 5 7 2 8 4
A9A Outside Rearview Mirror - Driver
M78D Outside Rearview Mirror Folding Motor - Driver
M
M77D Outside Rearview Mirror Motor - Driver
M
M

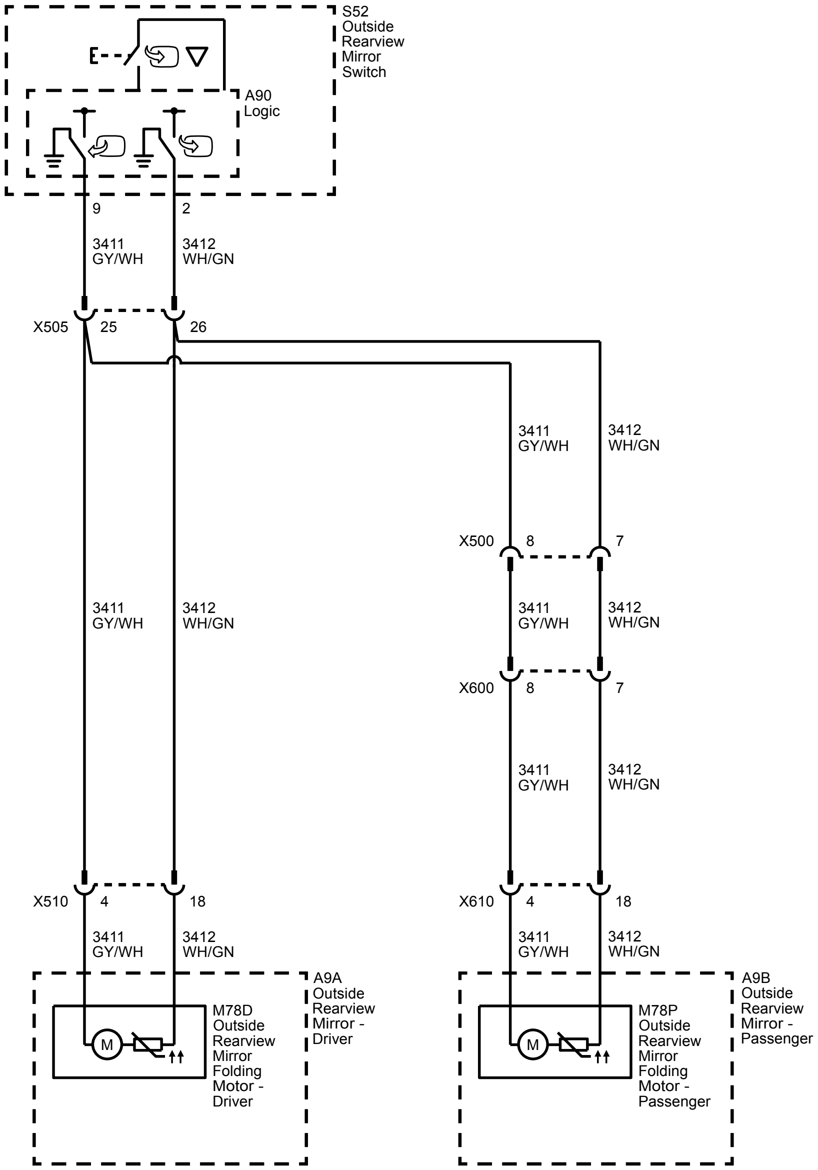
Passenger (A45)


B+
X51R Fuse Block - Instrument Panel Right
F42DR 30A
X2 20
1340 RD/WH
X600 1
1340 RD/WH
X606 27
1340 RD/WH
X1 4
S52 Outside Rearview Mirror Switch
K40 Seat Memory Control Module
7530 L-GN/WH
X2 9
B+
5V
A90 Logic
S79P Window Switch - Passenger
X1 1
X2 1
7
11
4
5
6
8
2
3
DL3/DQS
DL3/DQS
3413 YE/WH
3414 BU/GY
3403 VT/WH
3399 YE/RD
3401 BU/YE
3400 BK/GN
3396 GN/BK
3397 YE/VT
3398 WH
X605 8
9
13
12
10
14
11
6
7
1250 BK
3413 YE/WH
3414 BU/GY
3403 VT/WH
3399 YE/RD
3401 BU/YE
3400 BK/GN
3396 GN/BK
3397 YE/VT
3398 WH
X610 4
18
7
17
14
3
10
9
12
3413 L-BU
3414 YE
3403 L-BU/BK
3399 L-GN
3401 BN
3400 BN
3396 GY/BK
3397 OG/BK
3398 WH
A9B Outside Rearview Mirror - Passenger
2
1
5
7
3
1
8
2
4
M
M78P Outside Rearview Mirror Folding Motor - Passenger
M
M
M77P Outside Rearview Mirror Motor - Passenger
G312

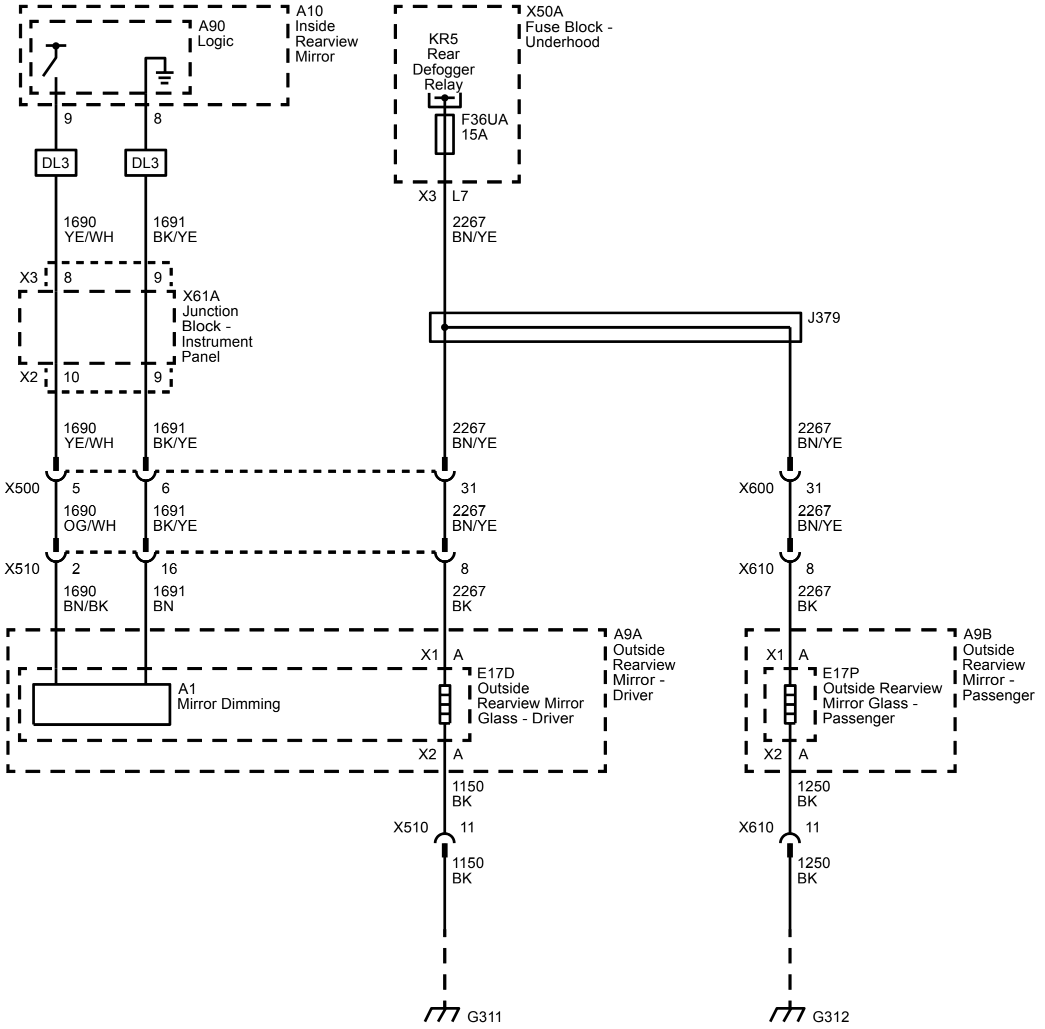
Position (DL3, DL8, DPN or DQS) without (A45)


B+
X51L
Fuse Block
- Instrument
Panel Left
F8DL
10A
X1 16
1940
RD/VT
1940
RD/VT
12
S52
Outside
Rearview
Mirror
Switch
DL3/DQS
B+
A90
Logic
X500 40
J519
L
o
R
L
o
R
7
3
10
1
8
4
5
1940
RD/VT
1940
RD/VT
3390
VT/BU
3391
YE/BN
3389
BN/BK
3397
YE/VT
3398
WH
3396
GN/BK
X505 22
6
7
5
X506 43
44
42
3390
VT/BU
3391
YE/BN
3389
BN/BK
3397
YE/VT
3398
WH
3396
GN/BK
1150
BK
X500 38
4
36
3397
YE/VT
3398
WH
3396
GN/BK
X600 38
4
36
3397
YE/VT
3398
WH
3396
GN/BK
X510 9
12
10
X610 9
12
10
3390
BU/WH
3391
WH
3389
GN/WH
3397
OG/BK
3398
WH
3396
GY/BK
8
4
2
2
4
8
M
M
M
M
M77D
Outside Rearview
Mirror Motor -
Driver
A9A
Outside
Rearview
Mirror -
Driver
M77P
Outside Rearview
Mirror Motor -
Passenger
A9B
Outside
Rearview
Mirror -
Passenger
G311

Folding (DL3 or DQS) without (A45)


S52 Outside Rearview Mirror Switch
A90 Logic
9
2
3411 GY/WH
3412 WH/GN
X505
25
26
3411 GY/WH
3412 WH/GN
X500
8
7
3411 GY/WH
3412 WH/GN
X600
8
7
3411 GY/WH
3412 WH/GN
3411 GY/WH
3412 WH/GN
X510
4
18
3411 GY/WH
3412 WH/GN
X610
4
18
3411 GY/WH
3412 WH/GN
A9A Outside Rearview Mirror - Driver
M
M78D Outside Rearview Mirror Folding Motor - Driver
A9B Outside Rearview Mirror - Passenger
M
M78P Outside Rearview Mirror Folding Motor - Passenger

Dimming (DL3) and Heating (DL8, DL3, DPN or DQS)


A10
Inside
Rearview
Mirror
A90
Logic
9
8
DL3
DL3
1690
YE/WH
1691
BK/YE
X3
8
9
X61A
Junction
Block -
Instrument
Panel
X2
10
9
1690
YE/WH
1691
BK/YE
X500
5
6
1690
OG/WH
1691
BK/YE
X510
2
16
1690
BN/BK
1691
BN
X50A
Fuse Block -
Underhood
KR5
Rear
Defogger
Relay
F36UA
15A
X3
L7
2267
BN/YE
J379
2267
BN/YE
31
2267
BN/YE
8
2267
BK
2267
BN/YE
X600
31
2267
BN/YE
X610
8
2267
BK
A9A
Outside
Rearview
Mirror -
Driver
X1
A
A1
Mirror Dimming
E17D
Outside
Rearview Mirror
Glass - Driver
X2
A
1150
BK
X510
11
1150
BK
G311
A9B
Outside
Rearview
Mirror -
Passenger
X1
A
E17P
Outside Rearview
Mirror Glass -
Passenger
X2
A
1250
BK
X610
11
1250
BK
G312

Description and Operation

Automatic Day-Night Mirror Description and Operation

Inside Rearview Mirror with the Automatic Day-Night Feature System Operation

The inside rearview mirror uses 2 photocell sensors. One sensor is the headlight sensor, located on the face side of the mirror. The headlight sensor is used to determine light conditions present at the mirror face. The other sensor is the ambient light sensor, located on the rear of the mirror or windshield side. The ambient light sensor is used to determine the exterior light conditions. With a low exterior light condition detected, and a high light condition from behind the car, at the headlight sensor, the inside rearview mirror will automatically darken the face of the mirror.

In the daytime, the mirror is in a normal state because of the high exterior light condition that is indicated by the ambient light sensor. With the gear selector lever in the REVERSE position and the engine running, backup lamp supply voltage is supplied as an input to the inside rearview mirror. The mirror monitors this input to disable the automatic day-night feature. This allows the driver to see objects in the mirror clearly when backing up, even during the night.

Driver Outside Rearview Mirror with Automatic Day-Night System Operation (If Equipped)

The automatic day-night feature of the driver outside rearview mirror is controlled by the inside rearview mirror. The inside rearview mirror supplies control and low reference to the driver outside rearview mirror. At night, with the automatic day-night feature enabled, the driver outside rearview mirror will automatically darken with the inside rearview mirror to reduce glare from headlamps behind the vehicle.

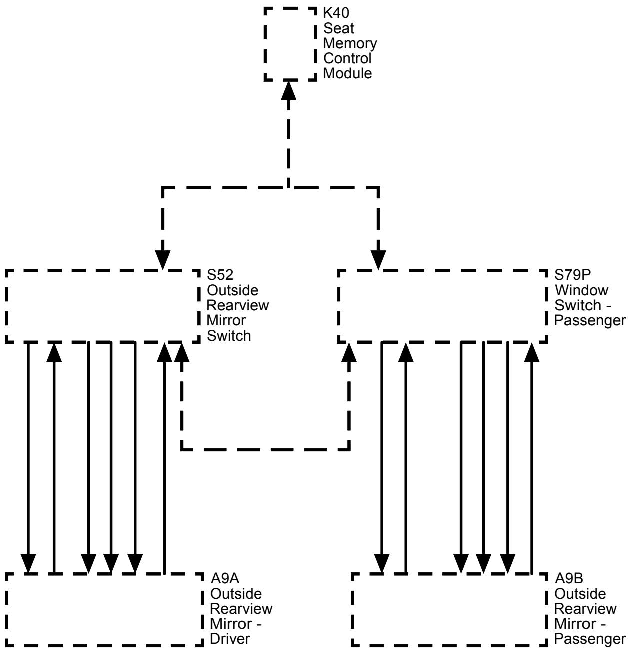
Outside Mirror Description and Operation (With A45)

Power Mirror System Components

The power mirror system consists of the following components:

- Memory Seat Control Module
- Outside Rearview Mirror Switch
- Passenger Window Switch
- Driver Outside Rearview Mirror
- Passenger Outside Rearview Mirror

Power Mirrors with A45 Block Diagram



Power Mirror System Controls

The outside mirror switch and passenger window switch are on a serial data circuit with the memory seat control module as the master. The mirror select and directional control switches are inputs to the memory seat module through the serial data circuit. When the memory seat module receives switch inputs from the outside mirror switch, mirror output commands are sent to the appropriate switch through the serial data circuit. The outside mirror switch and passenger window switch control the left and right outside rear view mirrors through bi-directional motor control circuits. The motor control circuits are floating while in an inactive state and the switches will apply power and ground to the control circuits as necessary to move the mirror in the commanded direction.

Mirror position is determined by both horizontal and vertical position sensors in each of the power mirrors. The outside mirror switch and passenger window switch supply a 5 V reference, low reference, and horizontal and vertical position signal circuits to these sensors. The signal circuits are referenced from 5 V by the switches and the signal circuit voltage levels represent the mirror positions. The mirror positions are sent to the memory seat module through the serial data circuit where they are stored for memory mirror operation. When the memory seat module receives a memory recall command, the memory seat module will send the go to position commands to the outside mirror switch and passenger window switch. The switches will then drive the appropriate mirror motors to the commanded position sensor settings.

Heated Mirrors

The heated mirrors are controlled through the rear defog relay. Whenever the rear window defogger is turned on battery voltage is supplied to the mirror heater elements through the left and right mirror heater element control circuits.

Outside Mirror Description and Operation (Without A45)

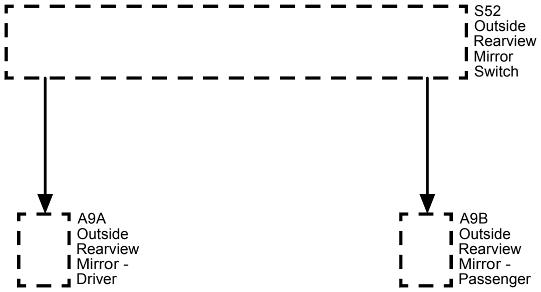
Power Mirror System Components

The power mirror system consists of the following components:

- Mirror direction switch — Controls the left, right, up and down movements of the mirrors
- Mirror select switch — Allows the operator to select the mirror to be moved
- Left outside mirror — Contains both the horizontal and vertical mirror motors
- Right outside mirror — Contains both the horizontal and vertical mirror motors

Each of the outside power mirrors contains 2 motors. The up-down motor operates the vertical directions and the left-right motor operates the horizontal directions. Each of the power mirror motors are internally circuit breaker protected.

Power Mirros Without A45 Block Diagram



Power Mirror System Controls

The outside mirror switch incorporates a mirror select switch and a 4 position mirror direction switch.

The mirror select switch allows the driver to select the mirror to be moved by turning the switch to L position enabling the left outside mirror or turning the switch to R position enabling the right outside mirror.

The mirror direction switch is a 4 position switch that allows the operator to move the selected mirror up, down, left or right.

Power Mirror System Operation

The outside mirror switch receives power through the battery positive voltage circuit from the underhood fuse block. The outside mirror switch also receives a constant ground.

The 4 positions of the direction switch have multiple switch contacts. When not in use, the directional contacts are isolated from any circuit. Each of the contacts are connected to opposing sides of the appropriate mirror motors through the selector switch. The selector switch interrupts or completes these circuits depending on the position of the selector switch, L or R.

If the mirror select switch is placed in the L position and the up switch is pressed, battery voltage will be supplied to the driver outside mirror vertical motor through the driver mirror motor up control circuit and return to the mirror switch through the driver mirror motor left/down control circuit, then to ground and the mirror will move up. If the down switch is pressed, the driver mirror motor left/down control circuit supplies battery voltage and the driver mirror motor up control circuit completes the path to the mirror switch, then to ground and the mirror will move down.

The remainder of the mirror functions operate in the same manner as described above. Placing the mirror control switch in opposing positions, left/right or up/down, will reverse the voltage polarity to the mirror motor, utilizing the same circuits and the mirror will move accordingly.

Heated Mirrors

The heated mirrors are controlled through the rear defog relay. Whenever the rear window defogger is turned ON, battery voltage is supplied to the mirror heater elements through the left and right mirror heater element control circuits.

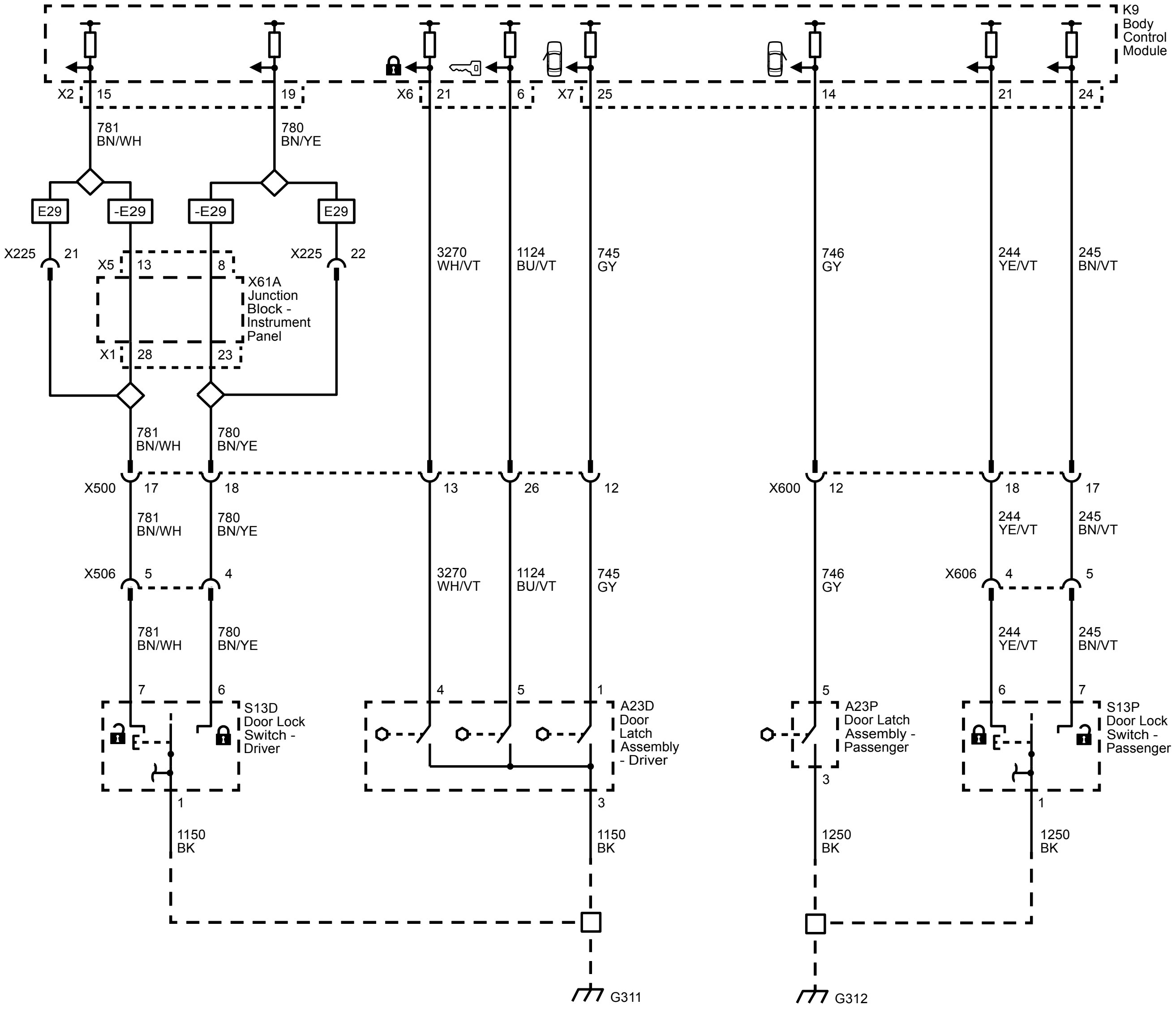
Body Systems

Vehicle Access

Schematic and Routing Diagrams

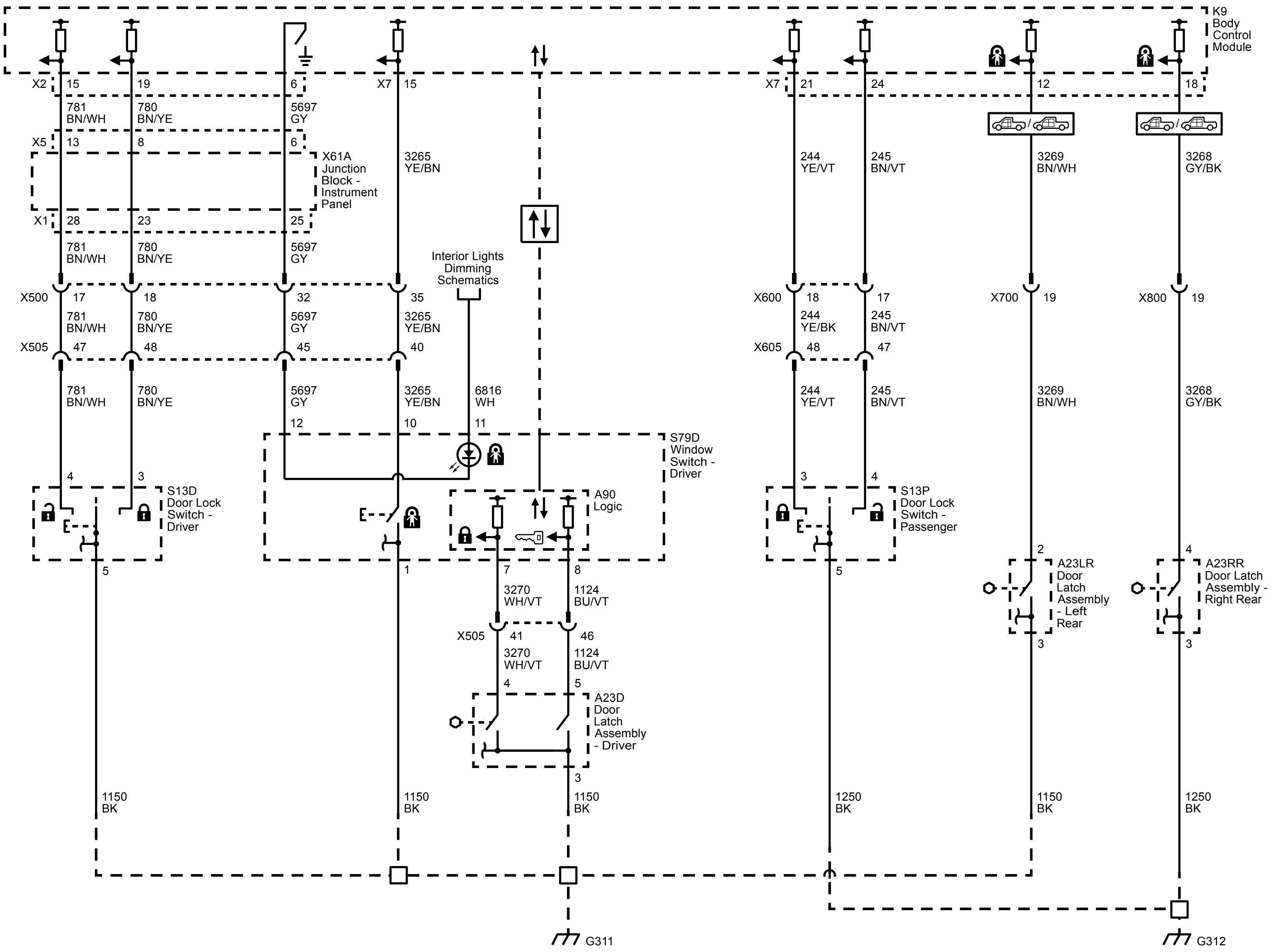
Door Lock/Indicator Schematics

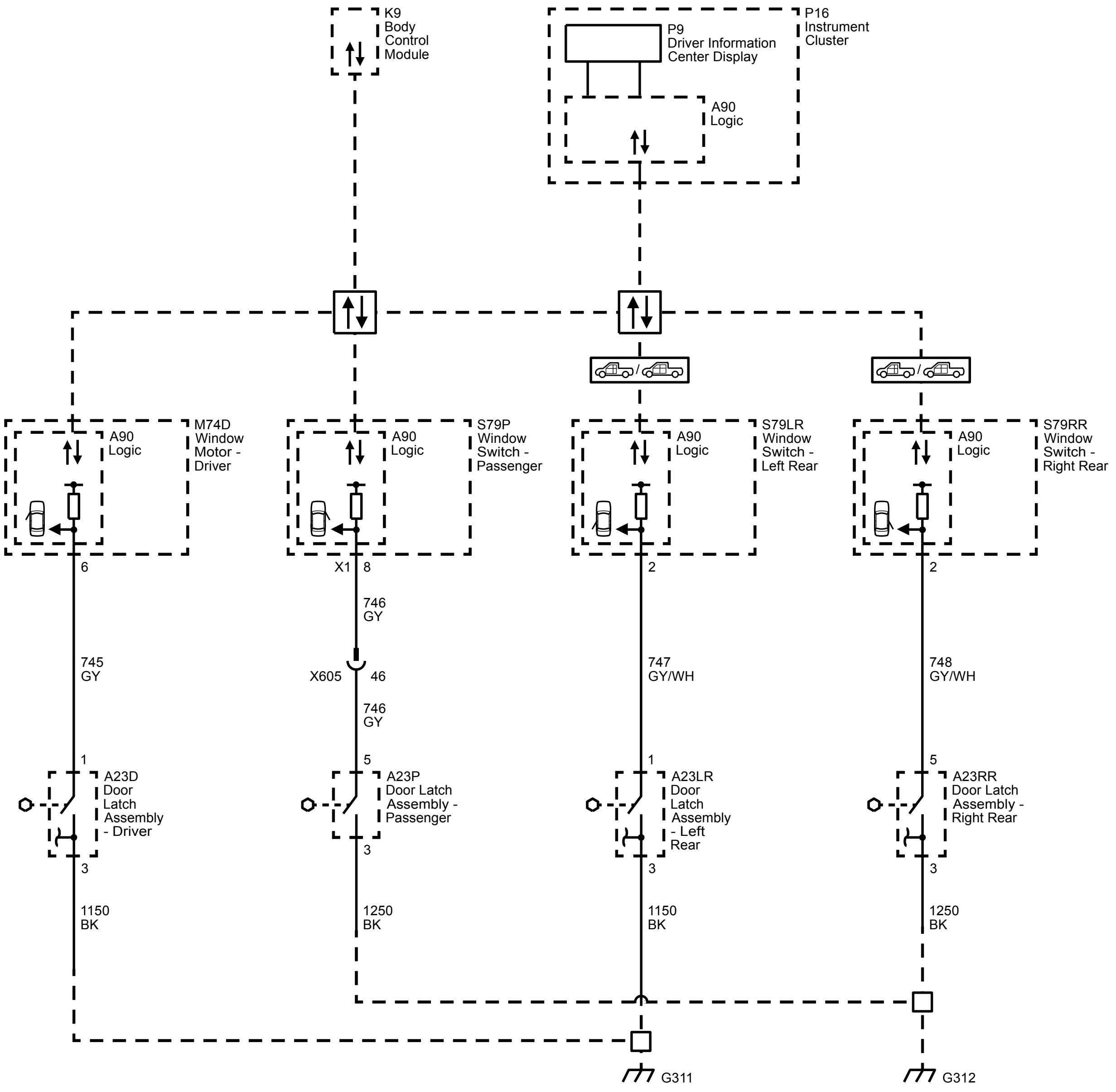
Switches and Indicators (without A31)



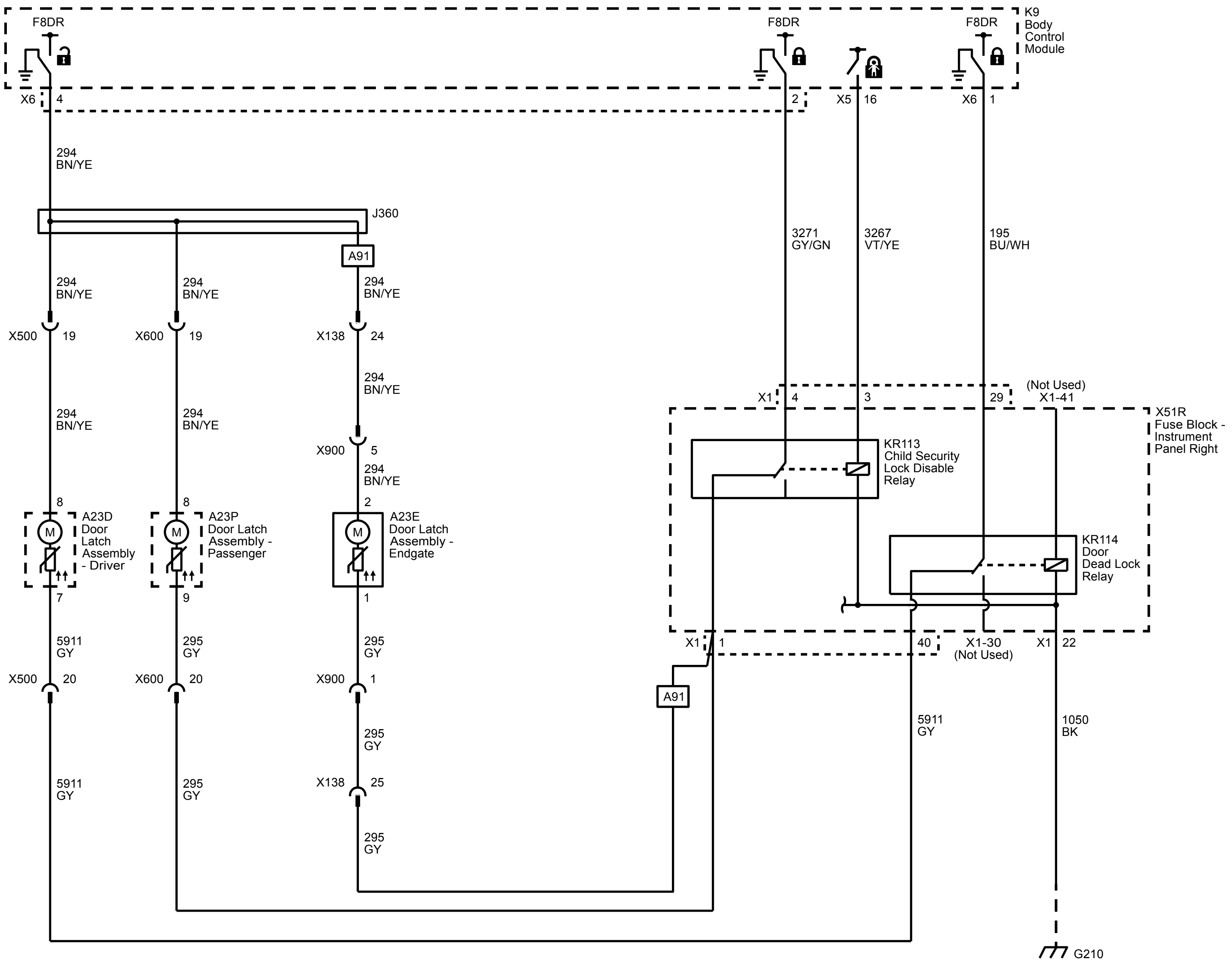
K9 Body Control Module
X2
15
19
X6
21
6
X7
25
14
21
24
781 BN/WH
780 BN/YE
E29
-E29
-E29
E29
X225
21
X225
22
X5
13
8
X61A Junction Block - Instrument Panel
X1
28
23
3270 WH/VT
1124 BU/VT
745 GY
746 GY
244 YE/VT
245 BN/VT
781 BN/WH
780 BN/YE
X500
17
18
13
26
12
X600
12
18
17
781 BN/WH
780 BN/YE
244 YE/VT
245 BN/VT
X506
5
4
3270 WH/VT
1124 BU/VT
745 GY
746 GY
X606
4
5
781 BN/WH
780 BN/YE
244 YE/VT
245 BN/VT
7
6
S13D Door Lock Switch - Driver
4
5
1
A23D Door Latch Assembly - Driver
5
A23P Door Latch Assembly - Passenger
6
7
S13P Door Lock Switch - Passenger
1
3
3
1
1150 BK
1150 BK
1250 BK
1250 BK
G311
G312

Switches and Child Lock Status (A31)

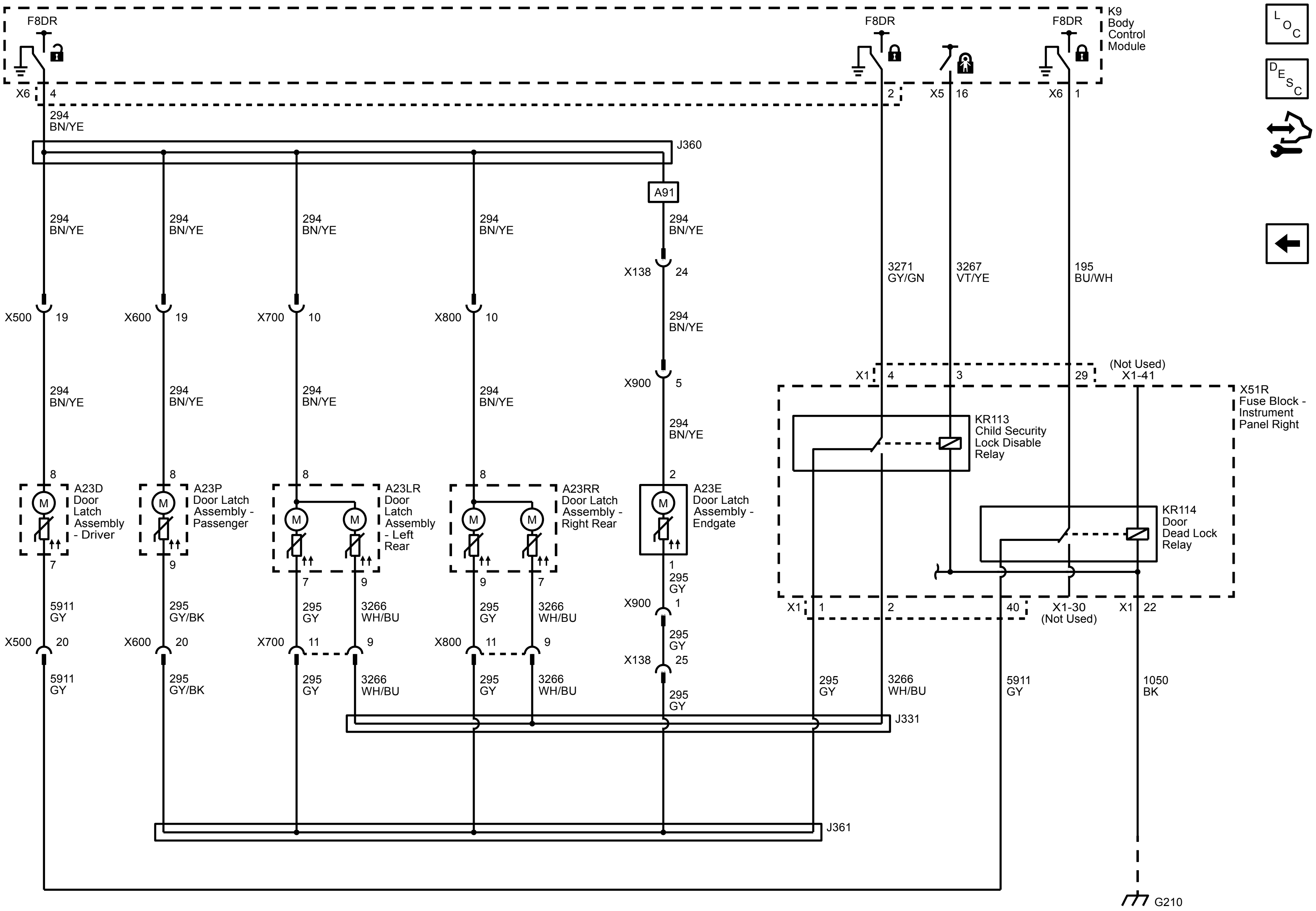

K9
Body
Control
Module
X2
15
19
6
X7
15
X7
21
24
12
18
781
BN/WH
780
BN/YE
5697
GY
X5
13
8
6
X61A
Junction
Block -
Instrument
Panel
X1
28
23
25
781
BN/WH
780
BN/YE
5697
GY
3265
YE/BN
Interior Lights
Dimming
Schematics
X500
17
18
32
35
781
BN/WH
780
BN/YE
5697
GY
3265
YE/BN
X505
47
48
45
40
781
BN/WH
780
BN/YE
5697
GY
3265
YE/BN
6816
WH
12
10
11
S79D
Window
Switch -
Driver
4
3
S13D
Door Lock
Switch -
Driver
5
1
A90
Logic
7
8
3270
WH/VT
1124
BU/VT
X505
41
46
3270
WH/VT
1124
BU/VT
4
5
A23D
Door
Latch
Assembly
- Driver
3
1150
BK
1150
BK
1150
BK
G311
244
YE/VT
245
BN/VT
X600
18
17
244
YE/BK
245
BN/VT
X605
48
47
244
YE/VT
245
BN/VT
3
4
S13P
Door Lock
Switch -
Passenger
5
1250
BK
3269
BN/WH
X700
19
3269
BN/WH
2
A23LR
Door
Latch
Assembly
- Left
Rear
3
1150
BK
3268
GY/BK
X800
19
3268
GY/BK
4
A23RR
Door Latch
Assembly -
Right Rear
3
1250
BK
G312


K9
Body
Control
Module
P16
Instrument
Cluster
P9
Driver Information
Center Display
A90
Logic
A90
Logic
M74D
Window
Motor -
Driver
A90
Logic
S79P
Window
Switch -
Passenger
A90
Logic
S79LR
Window
Switch -
Left Rear
A90
Logic
S79RR
Window
Switch -
Right Rear
6
X1
8
2
2
746
GY
745
GY
X605
46
747
GY/WH
748
GY/WH
746
GY
1
5
1
5
A23D
Door
Latch
Assembly
- Driver
A23P
Door Latch
Assembly -
Passenger
A23LR
Door
Latch
Assembly
- Left
Rear
A23RR
Door Latch
Assembly -
Right Rear
3
3
3
3
1150
BK
1250
BK
1150
BK
1250
BK
G311
G312

Actuators (2 Door)


F8DR
F8DR
F8DR
K9
Body
Control
Module
X6
4
2
X5
16
X6
1
294
BN/YE
J360
A91
294
BN/YE
294
BN/YE
294
BN/YE
3271
GY/GN
3267
VT/YE
195
BU/WH
X500
19
X600
19
X138
24
294
BN/YE
294
BN/YE
294
BN/YE
(Not Used)
X1-41
X1
4
3
29
X51R
Fuse Block -
Instrument
Panel Right
X900
5
294
BN/YE
KR113
Child Security
Lock Disable
Relay
8
8
2
A23D
Door
Latch
Assembly
- Driver
A23P
Door Latch
Assembly -
Passenger
A23E
Door Latch
Assembly -
Endgate
M
M
M
KR114
Door
Dead Lock
Relay
7
9
1
5911
GY
295
GY
295
GY
X1
1
40
X1-30
(Not Used)
X1
22
X500
20
X600
20
X900
1
A91
5911
GY
1050
BK
295
GY
5911
GY
295
GY
X138
25
295
GY
G210

Actuators (4 Door)



F8DR
F8DR
F8DR
K9
Body
Control
Module
X6
4
2
X5
16
X6
1
294
BN/YE
J360
A91
294
BN/YE
294
BN/YE
294
BN/YE
294
BN/YE
294
BN/YE
X138
24
3271
GY/GN
3267
VT/YE
195
BU/WH
X500
19
X600
19
X700
10
X800
10
294
BN/YE
X900
5
(Not Used)
X1-41
X1
4
3
29
X51R
Fuse Block -
Instrument
Panel Right
294
BN/YE
294
BN/YE
294
BN/YE
294
BN/YE
294
BN/YE
KR113
Child Security
Lock Disable
Relay
8
8
8
8
2
A23D
Door
Latch
Assembly
- Driver
A23P
Door Latch
Assembly -
Passenger
A23LR
Door
Latch
Assembly
- Left
Rear
A23RR
Door Latch
Assembly -
Right Rear
A23E
Door Latch
Assembly -
Endgate
M
M
M
M
M
M
M
M
KR114
Door
Dead Lock
Relay
7
9
7
9
9
7
1
295
GY
X900
1
5911
GY
295
GY/BK
295
GY
3266
WH/BU
295
GY
3266
WH/BU
X1
1
2
40
X1-30
(Not Used)
X1
22
X500
20
X600
20
X700
11
9
X800
11
9
295
GY
X138
25
5911
GY
295
GY/BK
295
GY
3266
WH/BU
295
GY
3266
WH/BU
295
GY
295
GY
3266
WH/BU
5911
GY
1050
BK
J331
J361
G210

Description and Operation

Door Ajar Indicator Description and Operation

Door Ajar Indicator System Components

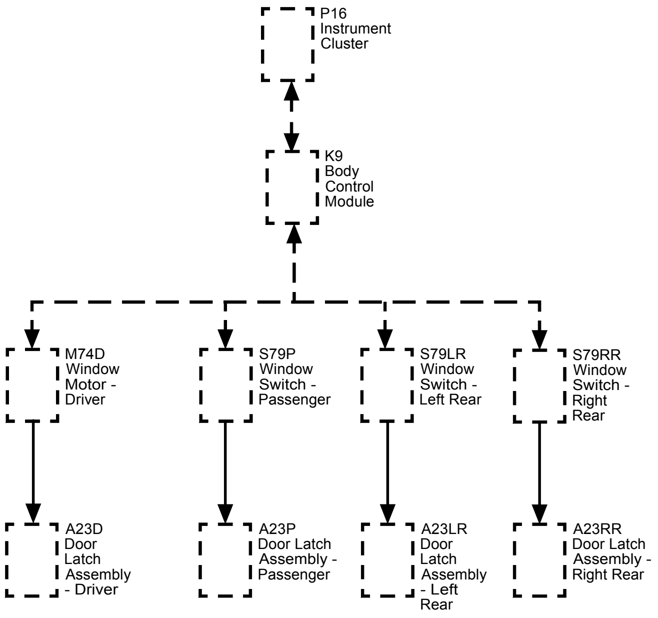
The door ajar indicator system consists of the following components:

- Body control module
- Instrument cluster
- Driver door latch
- Passenger door latch
- Left rear door latch
- Right rear door latch
- Driver window motor (AXG)
- Passenger window switch (AED)
- Left rear window switch (AEQ)
- Right rear window switch (AEQ)

Door Ajar System

Depending upon if the vehicle is a standard cab, extended cab or crew cab and/or is equipped with express up/down power windows or standard express down power windows or manual crank windows affects how the driver and passenger door ajar signal circuits are configured and monitored.

Door Ajar Indicator With AXG/AED/AEQ Block Diagram


P16 Instrument Cluster
K9 Body Control Module
M74D Window Motor - Driver
S79P Window Switch - Passenger
S79LR Window Switch - Left Rear
S79RR Window Switch - Right Rear
A23D Door Latch Assembly - Driver
A23P Door Latch Assembly - Passenger
A23LR Door Latch Assembly - Left Rear
A23RR Door Latch Assembly - Right Rear

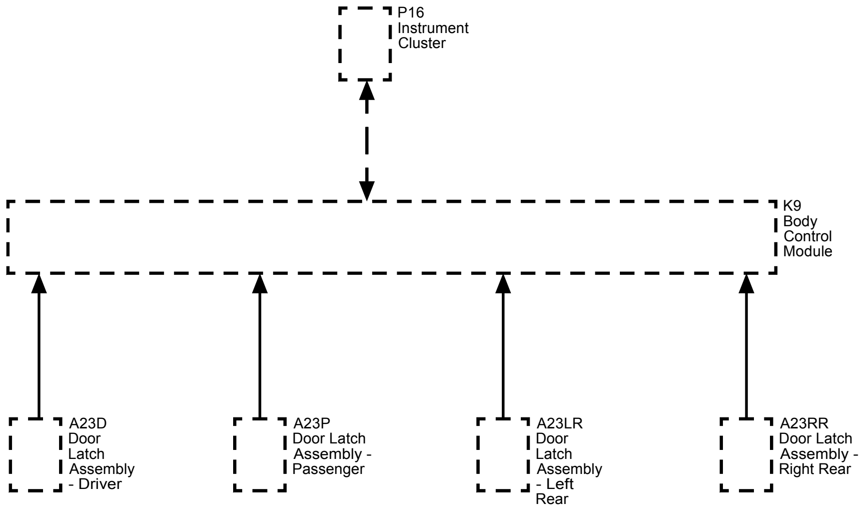
Driver Door Ajar (With AXG)

The driver window motor will provide a 12V signal to the driver door ajar switch within the door latch to indicate the status of the door. When the driver door is open, the contract within the ajar switch closes providing a ground part for the signal circuit. The driver window motor will detect the voltage drop in the ajar signal circuit and will send a serial data message to the body control module. The body control module will then send a message to the instrument cluster which will illuminate the door ajar icon.

Passenger and Rear Doors Ajar (With AED and AEQ)

The passenger and rear window switches provide a 12V signal to the respective door ajar switch within the door latch to indicate the status of the door. When the door is open, the contract within the ajar switch closes providing a ground part for the signal circuit. The window switch will detect the voltage drop in the ajar signal circuit and will send a serial data message to the body control module. The body control module will then send a message to the instrument cluster which will illuminate the door ajar icon.

Door Ajar Indicator Block Diagram


P16 Instrument Cluster
K9 Body Control Module
A23D Door Latch Assembly - Driver
A23P Door Latch Assembly - Passenger
A23LR Door Latch Assembly - Left Rear
A23RR Door Latch Assembly - Right Rear

Driver, Passenger and Rear Doors Ajar (Without AXG, AED or AEQ)

The body control module provides a 12V signal to each door ajar switch within the door latch to indicate the status of the door. When the door is open, the contract within the ajar switch closes providing a ground part for the signal circuit. The body control module will detect the voltage drop in the ajar signal circuit and will send a message to the instrument cluster which will illuminate the door ajar icon

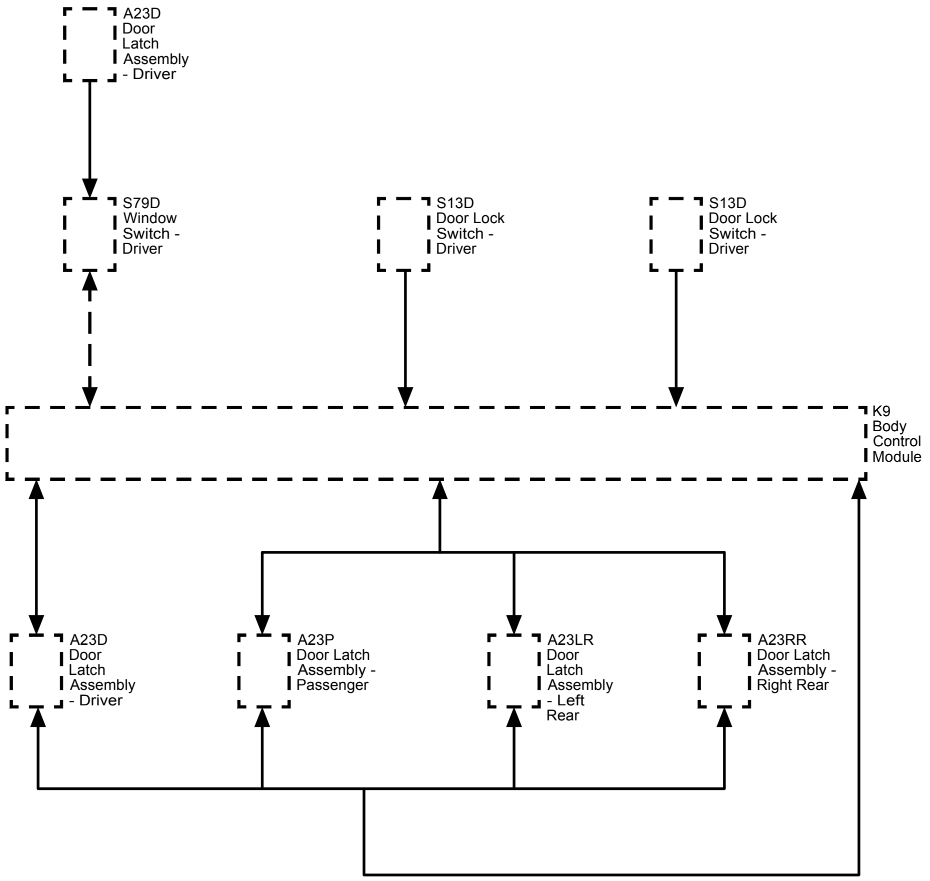
Power Door Locks Description and Operation

Door Lock System Components

The power door lock system consists of the following components:

- Driver door lock switch
- Driver door key cylinder switch (Part of the driver door latch assembly)
- Child door lockout switch (Part of the driver window switch)
- Passenger door lock switch
- Front door lock actuators
- Rear door lock actuators (Extended and crew cab models)
- Body control module (BCM)
- Keyless entry control module
- Keyless entry transmitter
- Right instrument panel fuse block (Contains child security lock disable PCB relay)

Power Door Locks Block Diagram


A23D Door Latch Assembly - Driver
S79D Window Switch - Driver
S13D Door Lock Switch - Driver
S13D Door Lock Switch - Driver
K9 Body Control Module
A23D Door Latch Assembly - Driver
A23P Door Latch Assembly - Passenger
A23LR Door Latch Assembly - Left Rear
A23RR Door Latch Assembly - Right Rear

Door Lock System Controls

The power door lock system can be controlled by any of the following:

- A door lock switch LOCK or UNLOCK activation
- A key cylinder switch unlock activation
- A keyless entry transmitter activation
- Pressing the driver door lock plunger flush with the door panel will lock all doors

Door Lock Operation

The BCM supplies a 12 volt signal to the lock and unlock signal circuits of the driver and passenger door lock switches. When the appropriate switch is pressed, a contact within the door lock switch closes providing a ground path for the signal circuit. The BCM will detect the voltage drop in the signal and will command the doors to perform the lock or unlock functions.

The driver door latch contains 2 internal switches and 2 signal circuits that are monitored by the BCM. One switch is controlled by the driver key cylinder switch, when the key is turned to the unlock position, a switch will close and the BCM will command the remaining doors to UNLOCK. The other switch is controlled by the driver door lock plunger, pressing the plunger flush with the door panel will close the switch, the switch will close and the BCM will command the remaining doors to LOCK

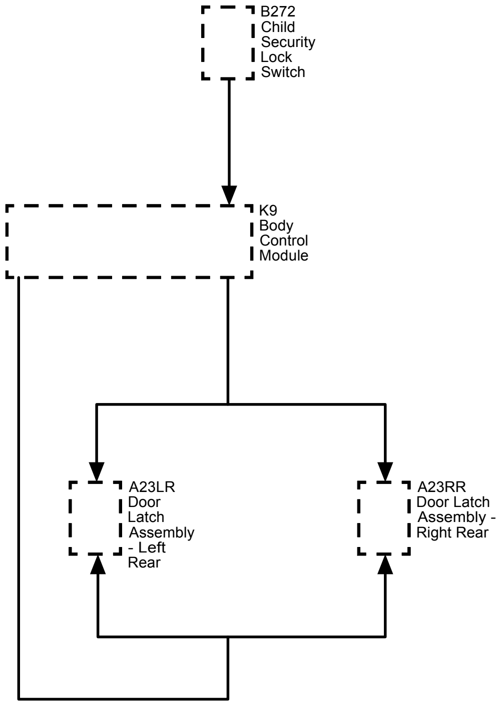
The BCM may also receive a LOCK or UNLOCK command from the keyless entry control module, refer to Keyless Entry System Description and Operation for information on the keyless entry system

The BCM, upon receipt of a lock switch lock or unlock signal, will supply voltage to the door lock actuator lock or unlock control circuits. Since the opposite side of the lock actuator is connected to ground through the other lock actuator control circuit, the doors will then lock or unlock as commanded.

The following three circuits are used to operate the lock:

- Driver door unlock
- Passenger doors unlock
- All doors lock

Power Door Child Lock Block Diagram


B272 Child Security Lock Switch
K9 Body Control Module
A23LR Door Latch Assembly - Left Rear
A23RR Door Latch Assembly - Right Rear

Child Security Lockout System Operation

The child door lockout switch on the driver window switch controls the child locks on the rear doors. The lockout switch is an input to the body control module and the body control module controls the door lock security relay. When the body control module receives a command from the child door lockout switch, it will apply voltage to the child security lock disable relay coil, this will energize the relay and the contact within the relay will then direct the voltage to activate the left rear and right rear child locks and then isolate them from the normal door lock system to prevent the rear doors from being opened by using the interior rear door handles. An indicator will also illuminate to alert the driver that the child lockout system has been activated. Pushing the switch again will return normal function to the rear interior door handles and the indicator will go out.

The body control module monitors the voltage level of the child security motor status signal circuit, when the child locks have been activated, the contacts of the child security motor status switch (internal to the rear door latch) will close providing a ground path for the signal circuit pulling the voltage low. It is in this manner that the body control module is able to determine if the rear door latch has been successfully been locked out.

The body control module monitors the status of the child security lockout system, when the body control module detects a fault in the system, it will command the child lockout indicator to flash ON and OFF for 30 seconds to alert the driver that the child security lockout system may not be functioning properly.

The body control module will command the child lockout indicator to flash ON and OFF for the following reasons:

- An open/high resistance in either child security motor status signal circuit
- The body control module detects that one or both rear door latches have not activated and are not locked out
- The body control module detects a short to ground or an open/high resistance in the child security lock disable relay control circuit
- A malfunctioning child security lock disable relay
- An open/high resistance in the child security lock motor control circuit

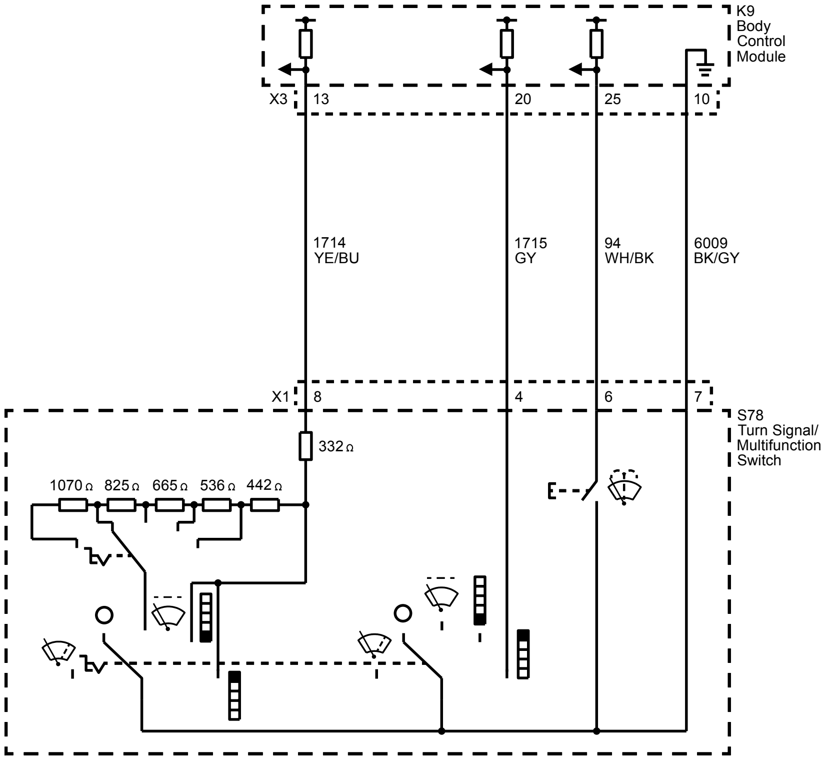
Body Systems

Wipers and Washers

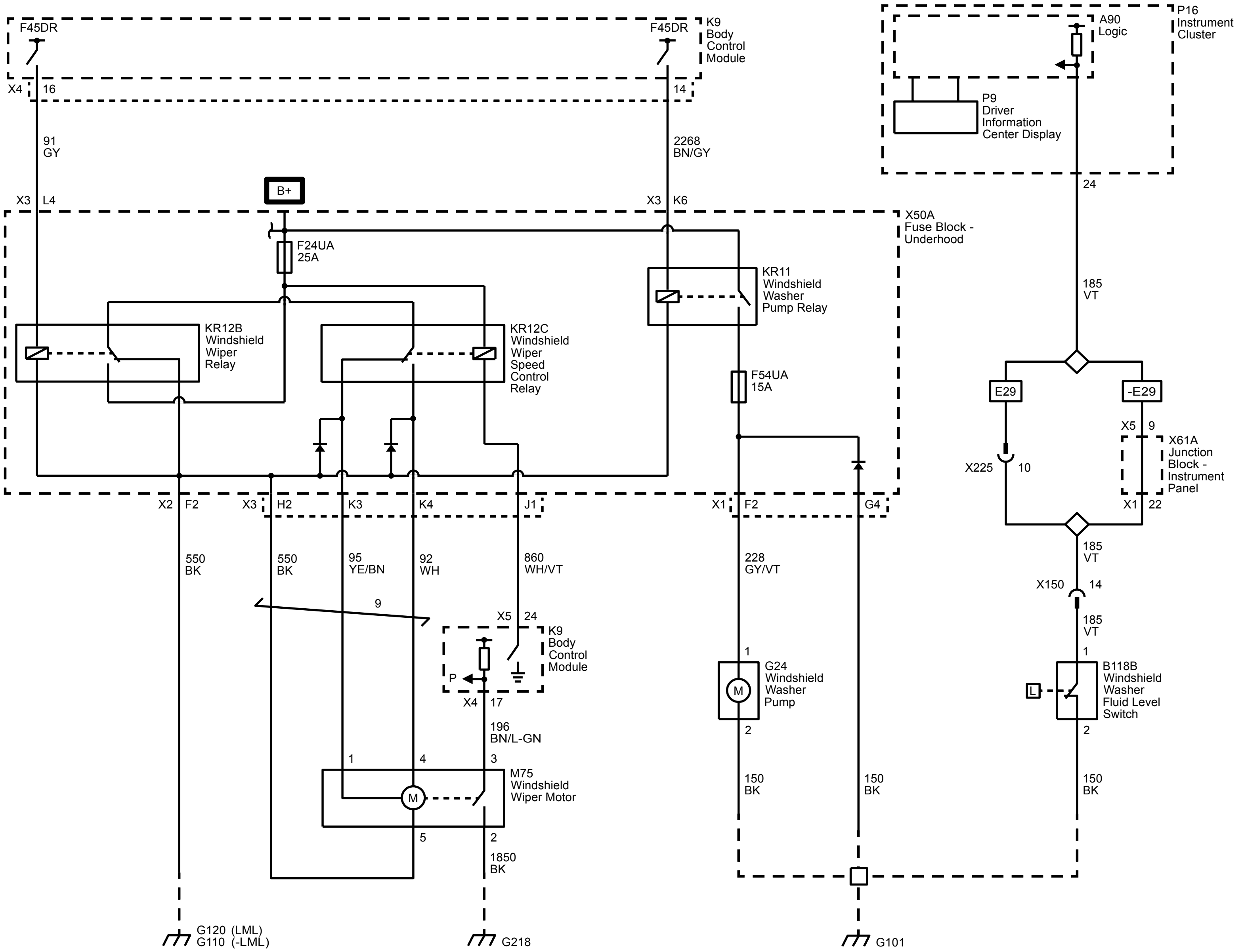
Schematic and Routing Diagrams

Wiper/Washer Schematics

Controls


K9
Body
Control
Module
X3
13
20
25
10
1714
YE/BU
1715
GY
94
WH/BK
6009
BK/GY
X1
8
4
6
7
S78
Turn Signal/
Multifunction
Switch
332 Ω
1070 Ω
825 Ω
665 Ω
536 Ω
442 Ω

Wiper Motor and Washer Pump


F45DR
F45DR
K9 Body Control Module
X4
16
14
91 GY
2268 BN/GY
X3
L4
X3
K6
B+
F24UA 25A
X50A Fuse Block - Underhood
KR11 Windshield Washer Pump Relay
KR12B Windshield Wiper Relay
KR12C Windshield Wiper Speed Control Relay
F54UA 15A
X2
F2
X3
H2
K3
K4
J1
X1
F2
G4
550 BK
550 BK
95 YE/BN
92 WH
860 WH/VT
228 GY/VT
9
X5
24
K9 Body Control Module
P
X4
17
196 BN/L-GN
1
4
3
M
M75 Windshield Wiper Motor
5
2
1850 BK
1
M
G24 Windshield Washer Pump
2
150 BK
150 BK
G120 (LML)
G110 (-LML)
G218
G101
P16 Instrument Cluster
A90 Logic
P9 Driver Information Center Display
24
185 VT
E29
-E29
X5
9
X61A Junction Block - Instrument Panel
X225
10
X1
22
185 VT
X150
14
185 VT
1
L
B118B Windshield Washer Fluid Level Switch
2
150 BK

Description and Operation

Wiper/Washer System Description and Operation

Wiper/Washer System Components

The wiper/washer system consists of the following electrical components:

- Windshield Wiper Relay
- Windshield Wiper Speed Control Relay
- Windshield Washer Pump Relay
- Windshield Washer Fluid Pump
- Windshield Wiper Motor
- Window Wiper/Washer Switch
- Windshield Wiper Motor Fuse
- Windshield Washer Fluid Pump Fuse
- Body Control Module

Windshield Wiper System

The body control module (BCM) determines the front wipe/wash system mode of operation by monitoring several signals from the front wipe/wash switch as indicated in the wiper switch.

The front wipe/wash switch receives a reference ground signal from the BCM. Each input of the BCM provides a switched battery pull-up for each front wiper/washer switch output signal it receives. All the BCM inputs are recognized as active when the wiper switch provides a path to the referenced ground signal. The first signal received by the BCM is the result of 6 resistors in the front wiper switch configured as a resistor ladder network. This signal is connected to a BCM analog to digital input. Depending on the function selected (High, Low, Intermittent 1 thru 5, Mist, Off), the front wiper control switch connects a different set of resistors into the circuit resulting in different voltages appearing on the BCM A/D input. By monitoring this voltage, the BCM determines how to control the wiper motor On/Off Relay. It should be noted that High, Low, and Mist all have the same value on this signal circuit. The second signal received from the front wiper switch is active only when the front wiper switch is in the high speed wiper position. When the wiper switch is not in the high speed position, the switch is open and the signal circuit is pulled to battery by the BCM. When the wiper switch is in the high speed position, the switch pulls the circuit low. The BCM determines how to control the Wiper high/low speed relay from this input. The third signal received from the front wiper switch is from the momentary windshield wash control switch. When the washer switch is not active the switch is open and the signal circuit is pulled to battery by the BCM. When the washer switch is active, the switch pulls the circuit low. The BCM controls the windshield wash and windshield wash activated wiper operation based on this input.

The BCM controls front wiper motor operation through two output signals and the monitoring of one input signal. The two outputs (one high side drive, one low side drive) are used to control two external wiper motor relays: front wiper motor on/off relay: which provides the wiper motor with battery power when it is activated by the high side drive signal (switched battery) from the BCM. When left deactivated, the normally closed contacts provide a ground to the wiper motor. Wiper high/low speed relay: when activated by a low side drive signal (ground) from the BCM, it switches the power supplied by the wiper motors on/off relay to the motors high speed input. When left deactivated, the normally closed contacts connect the power supplied by the wiper motors on/off relay to the motors low speed input. The input used by the BCM is from the park switch located in the wiper motor assembly. When the wiper blades are not in the park position, the wiper park switch is open and the circuit is pulled up to battery by the BCM. When the wiper blades are in the park position at the bottom of the glass, the wiper park switch closes to ground pulling the park signal circuit low.

To initiate low speed operation, the BCM only energizes the front wiper motor on/off relay. This allows battery voltage from the wiper fuse to be applied through the switched contacts of the wiper motor on/off relay, through the normally closed contacts of the wiper high/low speed relay, to the low speed control circuit of the windshield wiper motor.

Redundant high speed switch pass through. The BCM provides redundant circuitry which places battery power on its wiper motor on/off relay output with activation of its low assertion high speed wiper switch input. The BCM shall be capable of doing this, even if the module has lost all microprocessor control. This redundant circuit shall supply power while in the RUN and CRANK power modes. however; while in the CRANK power mode, the pass through shall only be active if the BCM is NOT in a computer operating properly state.

To initiate high speed operation, the BCM energizes both the front wiper motor on/off relay and the wiper high/low speed relay . This allows battery voltage from the wiper fuse to be applied through the switched contacts of the wiper motor on/off relay, through the switched contacts of the wiper high/low speed relay, to the high speed control circuit of the windshield wiper motor.

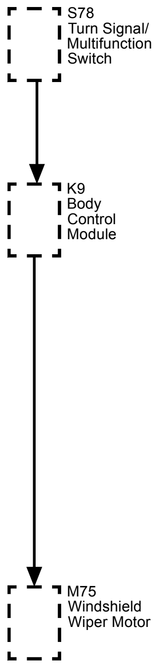
Parking the wiper motor. In order to perform an accurate read of the park switch and to ensure the wipers will come to rest while still in the park position, parking of the wipers only occurs while in a low speed wiper mode. This requires that if the wipers are performing a high speed wiper operation at the time they are required to park, the BCM shall transition the Wipers to low speed by deactivating the wiper high/low relay before attempting to park. In order to park the wipers, the BCM monitors the park circuit until the park switch pulls the park circuit to ground. At this time, the BCM will immediately deactivate the wiper motor on/off relay. The relay contacts will switch back to their normally closed position and will apply ground to the wiper motor power inputs through the normally closed contacts of the wiper high/low relay. This deactivates and dynamically brakes the wiper motor in the park position. When the wiper switch is turned to the OFF position while the wiper motor is somewhere in mid-cycle, the BCM will continue to operate the motor until the wipers reach the park position. If the BCM is running the wiper motor and does not see a state transition of the park switch after 8 s, the wipers will stop immediately when the wiper switch is turned to OFF. If the ignition is turned OFF while the wipers are in mid-cycle, the wipers will stop immediately, regardless of position. The BCM will park the wipers next time the ignition is turned ON.

The windshield wiper system MIST operation is identical to LOW speed operation, except that the MIST switch is a press and release type switch. When the wiper switch is moved to the MIST position and released, low speed wiper motor operation is started and will continue until 1 cycle is complete. If the wiper switch is moved to the MIST position and held, the wiper motor will operate in the LOW speed mode until the switch is released.

Windshield wiper intermittent operation is a low speed wiper motor function with a variable delay interval between the wiper motor cycles. The duration of the delay is controlled by the front wiper control switches intermittent 1 thru intermittent 5 settings. The wiper operation is as follows

1. The BCM will initiate a single wipe by activating its front wiper ON/OFF relay output.
2. At the completion of a single wipe, the BCM will park the wipers as described above.
3. The BCM will then pause the wipers in their park position for the time duration associated with intermittent delay switch setting.
4. When the delay time expires repeat Steps 1 and 3 until the system is turned off or taken out of intermittent mode. If the wiper switch is moved from a longer delay interval to a shorter delay interval, the BCM will command an immediate wipe cycle and reset the delay timer to the shorter delay interval.

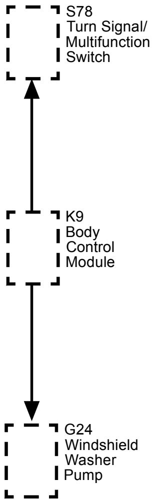
Intermittent wiper operation may be vehicle speed sensitive. When enabled, the speed compensated intermittent feature causes the intermittent wiper delay intervals to become shorter as a function of increased speed. As vehicle speed is reduced the intervals will become closer to the predetermined

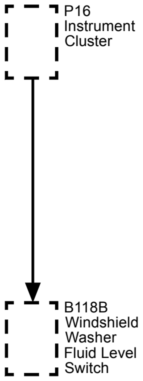


Windshield Washer System

The BCM controls the windshield wash operation and windshield wash activated wiper operation. When the BCM detects the activation of the momentary windshield wash control switch, it activates its washer pump relay drive output which supplies battery power to the coil of the washer pump relay. This energizes the relay, which switches battery power to the pump motor. The BCM will also activate continuous low speed windshield wipes as described above. Upon deactivation of the windshield wash control switch, the wiper control module (BCM) shall deactivate the wash motor and will also park the wiper motor as described above unless the drip wipe feature is enabled. On some vehicles the drip wipe feature will be enabled and cause the system to provide additional wiping of the windshield after the switch has been released and fluid is no longer being applied. The front wash feature may attempt to detect a stuck switch. When enabled, activation of the wash feature shall be limited to 10 seconds.

On vehicles with the Rear Wash feature a single reversing wash motor may be utilized for both the front and rear wash operation. In this system the wash motor is operated in one direction to spray fluid on the front windshield and then operated in the reverse direction to spray fluid on the rear window. The BCM Controls the reversing wash motor through two High Side Drive outputs. One controls the Front Wiper Motor Relay and one controls the Rear Wiper Relay.


S78
Turn Signal/
Multifunction
Switch
K9
Body
Control
Module
G24
Windshield
Washer
Pump


P16
Instrument
Cluster
B118B
Windshield
Washer
Fluid Level
Switch

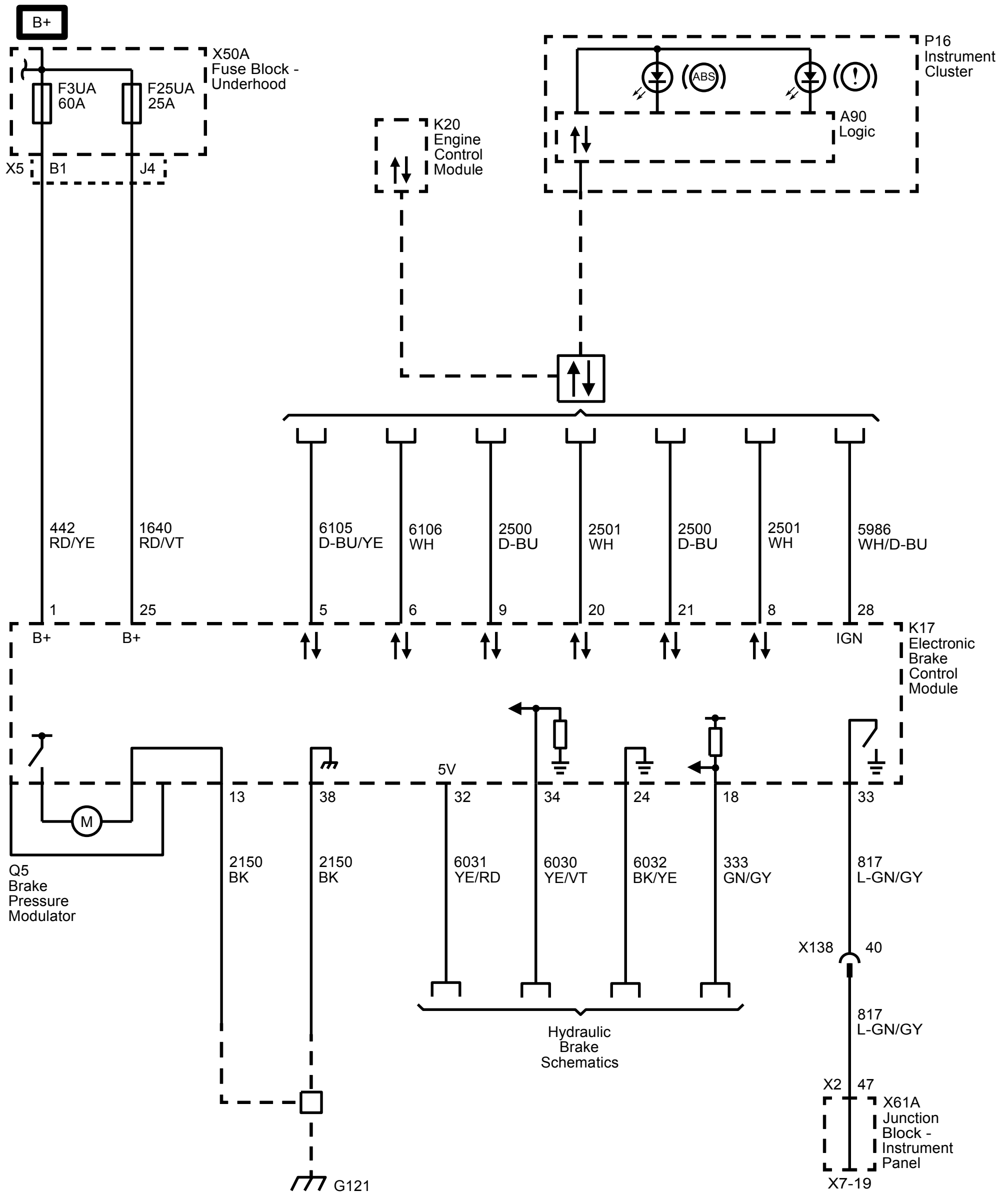
Brakes

Antilock Brake System - Greater than/Equal to 3900 kg (8600 lb) GVW

Schematic and Routing Diagrams

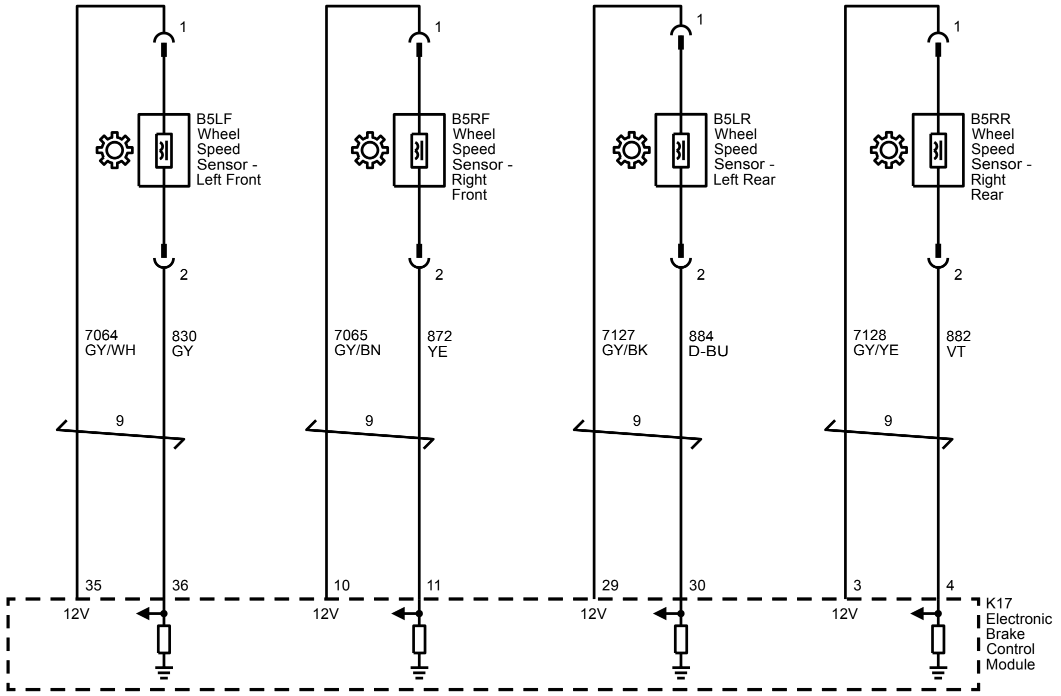
Antilock Brake System Schematics

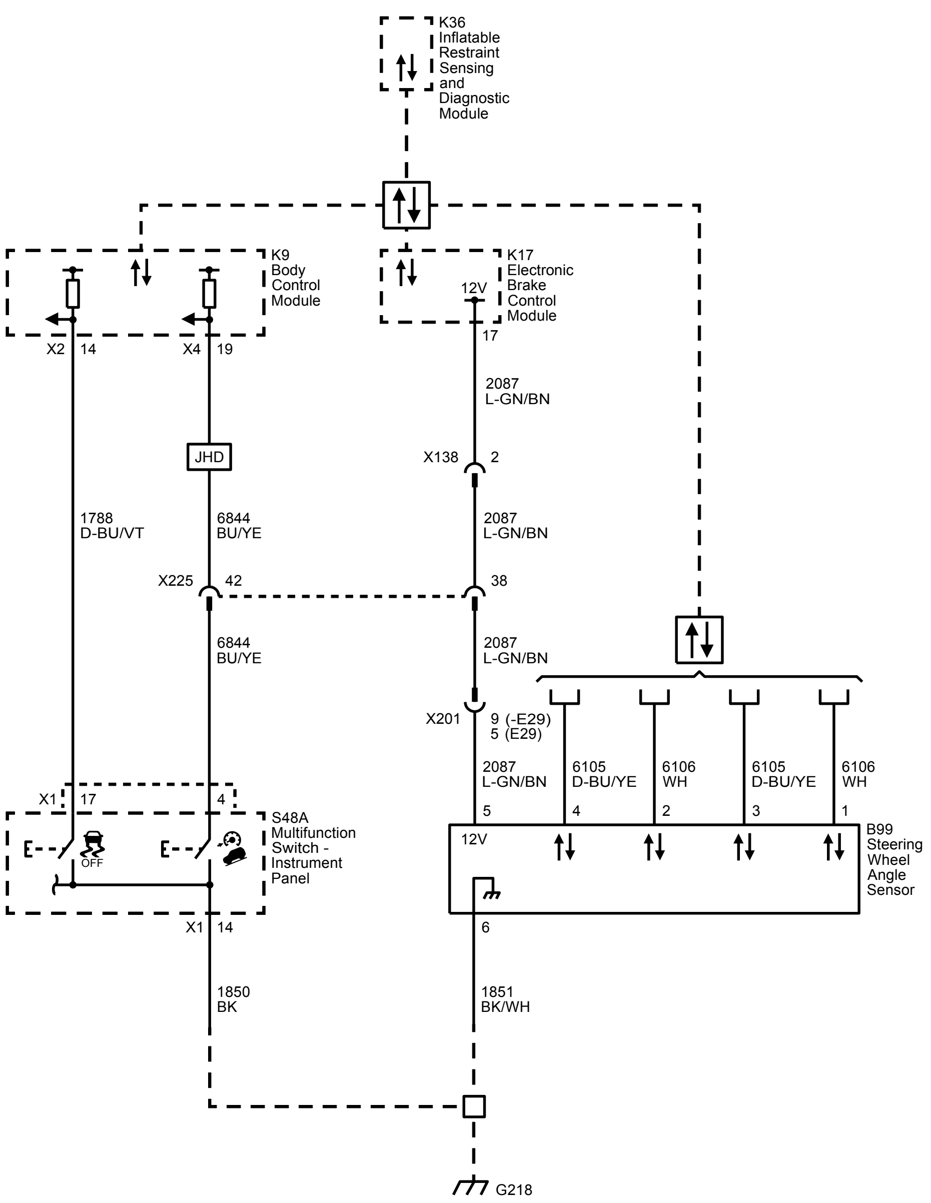
Power, Ground, Serial Data and Traction Controls



B+
X50A
Fuse Block -
Underhood
F3UA
60A
F25UA
25A
X5
B1
J4
K20
Engine
Control
Module
P16
Instrument
Cluster
ABS
A90
Logic
442
RD/YE
1640
RD/VT
6105
D-BU/YE
6106
WH
2500
D-BU
2501
WH
2500
D-BU
2501
WH
5986
WH/D-BU
1
25
5
6
9
20
21
8
28
B+
B+
IGN
K17
Electronic
Brake
Control
Module
M
5V
13
38
32
34
24
18
33
Q5
Brake
Pressure
Modulator
2150
BK
2150
BK
6031
YE/RD
6030
YE/VT
6032
BK/YE
333
GN/GY
817
L-GN/GY
X138
40
817
L-GN/GY
Hydraulic
Brake
Schematics
X2
47
X61A
Junction
Block -
Instrument
Panel
X7-19
G121

Wheel Speed Signals

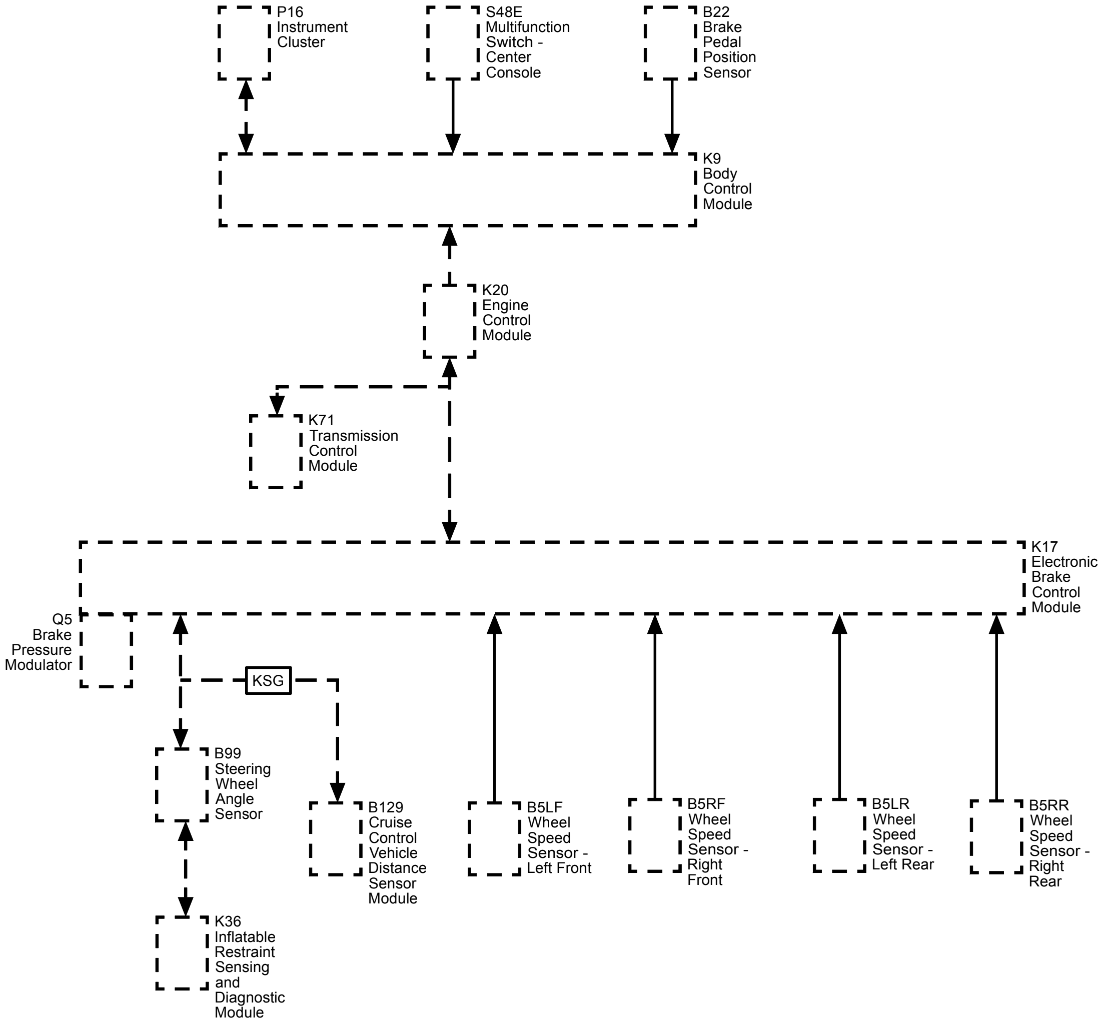

1
B5LF
Wheel
Speed
Sensor -
Left Front
2
7064
GY/WH
830
GY
9
35
36
12V
1
B5RF
Wheel
Speed
Sensor -
Right
Front
2
7065
GY/BN
872
YE
9
10
11
12V
1
B5LR
Wheel
Speed
Sensor -
Left Rear
2
7127
GY/BK
884
D-BU
9
29
30
12V
1
B5RR
Wheel
Speed
Sensor -
Right
Rear
2
7128
GY/YE
882
VT
9
3
4
12V
K17
Electronic
Brake
Control
Module


K36 Inflatable Restraint Sensing and Diagnostic Module
K9 Body Control Module
K17 Electronic Brake Control Module
12V
X2 14
X4 19
17
2087 L-GN/BN
JHD
X138 2
1788 D-BU/VT
6844 BU/YE
2087 L-GN/BN
X225 42
38
6844 BU/YE
2087 L-GN/BN
X201
9 (-E29)
5 (E29)
2087 L-GN/BN
6105 D-BU/YE
6106 WH
6105 D-BU/YE
6106 WH
X1 17
4
5
4
2
3
1
S48A Multifunction Switch - Instrument Panel
OFF
12V
B99 Steering Wheel Angle Sensor
X1 14
6
1850 BK
1851 BK/WH
G218

Description and Operation

ABS Description and Operation

TRW EBC460 Block Diagram


P16 Instrument Cluster
S48E Multifunction Switch - Center Console
B22 Brake Pedal Position Sensor
K9 Body Control Module
K20 Engine Control Module
K71 Transmission Control Module
K17 Electronic Brake Control Module
Q5 Brake Pressure Modulator
KSG
B99 Steering Wheel Angle Sensor
B129 Cruise Control Vehicle Distance Sensor Module
B5LF Wheel Speed Sensor - Left Front
B5RF Wheel Speed Sensor - Right Front
B5LR Wheel Speed Sensor - Left Rear
B5RR Wheel Speed Sensor - Right Rear
K36 Inflatable Restraint Sensing and Diagnostic Module

This vehicle is equipped with a TRW EBC460 brake system. The electronic brake control module and the brake pressure modulator are serviced separately. The brake pressure modulator uses a four circuit configuration to control hydraulic pressure to each wheel independently.

Depending on options, the following vehicle performance enhancement systems are provided.

- ABS
- Traction Control
- Stability Control
- Dynamic Rear Proportioning
- Hill Descent Control System
- Hill Hold Start Assist
- Cornering Brake Control
- Hydraulic Brake Assist
- Optimized Hydraulic Braking System
- Intelligent Brake Assist
- Trailer Brake Control System

- Trailer Sway Control

The following components listed below are involved in the operation of the brake system:

- Electronic brake control module - The electronic brake control module controls the system functions and detects failures. It supplies voltage to the solenoid valves and pump motor.
- Brake pressure modulator - The brake pressure modulator contains the following components:
  - Brake pressure sensor
  - Hydraulic pump with pump motor
  - Four isolation vales
  - Four dump valves
  - Two traction/stability control supply valves
  - Two traction/stability control isolation valves
  - High pressure accumulator
  - Low pressure accumulator
- Body control module monitors the brake pedal position sensor signal when the brake pedal is applied and sends a high speed serial data message to the electronic brake control module indicating the brake pedal position.
- Brake pressure sensor is used to sense the action of the driver application of the brake pedal. The sensor provides an analog voltage signal that will increase as the brake pedal is applied. The electronic brake control module monitors the brake pressure sensor which is integral to the brake pressure modulator.
- Instrument cluster - The instrument cluster displays the vehicle speed based on the information from the engine control module. The engine control module sends the vehicle speed information via a high speed serial data to the body control module. The body control module then sends the vehicle speed information via a low speed serial data to the instrument cluster in order to display the vehicle speed, either in kilometers or miles, based on the vehicle requirements.
- Multi-axis acceleration sensor - The yaw rate, lateral acceleration and longitudinal acceleration sensors are combined into one multi-axis acceleration sensor, internal to the inflatable restraint sensing and diagnostic module. The electronic brake control module receives serial data message inputs from the yaw rate, lateral acceleration and longitudinal acceleration sensor and activates stability control and hill hold start assist function depending on multi-axis acceleration sensor input.
- Multifunction switch - The traction control switch is a multifunction momentary switch. The body control module monitors the signal circuit from the traction control switch and sends a high speed serial data message to the electronic brake control module indicating the switch position. The traction control and stability control are manually disabled or enabled by pressing the traction control switch.
- Steering wheel angle sensor - The electronic brake control module receives serial data message inputs from the steering angle sensor. The steering wheel angle sensor signal is used to calculate the intended driving direction.
- Transmission control module - The electronic brake control module receives high speed serial data message inputs from the transmission control module indicating the gear position of the transmission for hill start assist or hill hold functions.
- Active wheel speed sensors - The electronic brake control module supplies a ignition voltage to each wheel speed sensor. As the wheel spins, the wheel speed sensor produces an alternating current square wave signal. The electronic brake control module uses the frequency of the square wave signal to calculate the wheel speed. The electronic brake control module uses the frequency of the square wave signal to calculate the wheel speed. The electronic brake control module sends the wheel speed information via high speed serial data to the engine control module.

Power-Up-Self Test

The electronic brake control module is able to detect many malfunctions whenever the ignition is ON. However, certain failures cannot be detected unless active diagnostic tests are performed on the components. Shorted solenoid coil or motor windings, for example, cannot be detected until the components are commanded ON by the electronic brake control module. Therefore, a power-up self-test is performed to verify correct operation of system components. The electronic brake control module performs the first phase of the power-up self-test when the ignition is first turned ON. This phase consists of internal self-testing of the electronic brake control module along with electrical checks of system sensors and circuits.

Initialization Sequence

The initialization sequence cycles each solenoid valve and the pump motor, as well as the necessary relays, for approximately forty milliseconds to check component operation. One of the checks performed is the adaptive pressure calibration that occurs when the engine is running and the brake pedal is not applied. The adaptive pressure calibration will cycle each of the six isolation valves to verify valve operation. The initialization sequence may be heard and felt while it is taking place, and is considered part of normal system operation. The active test is initiated by the electronic brake control module at the start of the ignition cycle and the speed of the fastest wheel exceeds 16 km/h (10 MPH). If a fault condition is detected the electronic brake control module sets a DTC.

ABS

When wheel slip is detected during a brake application, an ABS event occurs. During ABS braking, hydraulic pressure in the individual wheel circuits is controlled to prevent any wheel from slipping. A separate hydraulic line and specific solenoid valves are provided for each wheel. The ABS can decrease, hold, or increase hydraulic pressure to each wheel. The ABS does not, however, increase hydraulic pressure above the amount which is transmitted by the master cylinder during braking.

During ABS braking, a series of rapid pulsations is felt in the brake pedal. These pulsations are caused by the rapid changes in position of the individual solenoid valves as the electronic brake control module responds to wheel speed sensor inputs and attempts to prevent wheel slip. These pedal pulsations are present only during ABS braking and stop when normal braking is resumed or when the vehicle comes to a stop. A ticking or popping noise may also be heard as the solenoid valves cycle rapidly. During ABS braking on dry pavement, intermittent chirping noises may be heard as the tires approach slipping. These noises and pedal pulsations are considered normal during ABS operation.

Vehicles equipped with ABS may be stopped by applying normal force to the brake pedal. Brake pedal operation during normal braking is no different than that of previous non-ABS systems. Maintaining a constant force on the brake pedal provides the shortest stopping distance while maintaining vehicle stability. The typical ABS activation sequence is as follows.

Pressure Hold

The electronic brake control module closes the isolation valve and keeps the dump valve closed in order to isolate the slipping wheel when wheel slip occurs. This holds the pressure steady on the brake so that the hydraulic pressure does not increase or decrease.

Pressure Decrease

If a pressure hold does not correct the wheel slip condition, a pressure decrease occurs. The electronic brake control module decreases the pressure to individual wheels during deceleration when wheel slip occurs. The isolation valve is closed and the dump valve is opened. The excess fluid is stored in the accumulator until the pump can return the fluid to the master cylinder or fluid reservoir.

Pressure Increase

After the wheel slip is corrected, a pressure increase occurs. The electronic brake control module increases the pressure to individual wheels during deceleration in order to reduce the speed of the wheel. The isolation valve is opened and the dump valve is closed. The increased pressure is delivered from the master cylinder.

Traction Control

When drive wheel slip is noted, the electronic brake control module will enter traction control mode.

First, the electronic brake control module requests the engine control module to reduce the amount of torque to the drive wheels via a serial data message. The engine control module reduces torque to the drive wheels and reports the amount of delivered torque.

If the engine torque reduction does not reduce drive wheel slip, the electronic brake control module will actively apply the brakes on the slipping drive wheel. During traction control braking, hydraulic pressure in each drive wheel circuit is controlled to prevent the drive wheels from slipping. The electronic brake control module commands the pump motor and appropriate solenoid valves ON and OFF to apply brake pressure to the slipping wheel.

Traction control can be manually disabled or enabled by pressing the traction control switch.

Stability Control

Stability control provides added stability during aggressive maneuvers. Yaw rate is the rate of rotation about the vehicle's vertical axis. The stability control is activated when the electronic brake control module determines that the desired yaw rate does not match the actual yaw rate as measured by the yaw rate sensor.

The desired yaw rate is calculated by the electronic brake control module using the following inputs:

- Steering wheel position
- Vehicle speed
- Lateral acceleration

The difference between the desired yaw rate and the actual yaw rate is the yaw rate error, which is a measurement of oversteer or understeer. When a yaw rate error is detected, the electronic brake control module attempts to correct the vehicle's yaw motion by applying brake pressure to one or more of the wheels. The amount of applied brake pressure varies, depending on the correction required. The engine torque may be reduced also, if it is necessary to slow the vehicle while maintaining stability.

Stability control activations generally occur in turns during aggressive driving. When braking during stability control activation, the brake pedal may pulsate.

Stability control can be manually disabled or enabled by pressing and holding the traction control switch for five seconds.

Dynamic Rear Proportioning

The dynamic rear proportioning is a control system that replaces the mechanical proportioning valve. Under certain driving conditions the electronic brake control module will reduce the rear wheel brake pressure by commanding the appropriate solenoid valves ON and OFF.

Hill Descent Control System

The hill descent control system allows a smooth and controlled hill descent in rough terrain without the driver needing to touch the brake pedal. The vehicle will automatically decelerate to a low speed and remain at that speed while activated. Some noise or vibration from the brake system may be apparent when the system is active. The descent control system may be activated, if equipped, by pressing the button on the console. To activate, press the button when traveling at speeds less that 50 km/h (30 MPH). To deactivate, press the button on the console, the brake pedal, or the accelerator. Descent control enables the vehicle to descend using the ABS to control each wheel's speed. If the vehicle accelerates without driver input, the system automatically applies the brakes to slow the vehicle down to the desired speed

Hill Hold Start Assist

The hill hold start assist allows the driver to launch the vehicle without a roll back while moving the foot from the brake pedal to the accelerator pedal. The electronic brake control module calculates the brake pressure, which is needed to hold the vehicle on an incline and locks that pressure for a certain time by commanding the appropriate solenoid valves ON and OFF when the brake pedal is released. Hill hold start assist is activated when the electronic brake control module determines that the driver wishes to move the vehicle up-hill, either backwards or forwards.

The following inputs are used for hill hold start assist feature:

- Accelerator pedal position
- Brake switch
- Brake pressure
- Clutch switch, if equipped
- Engine torque
- Longitudinal acceleration
- Transmission gear information
- Vehicle speed

Cornering Brake Control

Cornering brake control is a slip control function that is intended to improve the vehicle's lateral/yaw stability during combined braking and cornering situations.

The electronic brake control module will reduce the brake pressure to the inside wheels by commanding the appropriate solenoid valves ON and OFF.

Hydraulic Brake Assist

The hydraulic brake assist function is designed to support the driver in emergency braking situations.

The electronic brake control module receives inputs from the brake pressure sensor. When the electronic brake control module senses an emergency braking situation, the electronic brake control module will actively increase the brake pressure to a specific maximum.

Intelligent Brake Assist

The intelligent brake assist function is designed to provide limited braking to help prevent front and rear low speed collisions.

The electronic brake control module receives inputs from the brake pedal position sensor, wheel speed sensors, short range radar and ultrasonic sensors to detect a collision. When the electronic brake control module senses a possible collision, it will actively increase the hydraulic brake pressure to apply the brakes.

Optimized Hydraulic Braking System

With some engines the electronic brake control module monitors the vacuum in the brake booster with a vacuum sensor and controls a brake booster vacuum pump depending on vacuum sensor input. It also has a hydraulic brake boost feature which supplements the brake system to maintain consistent brake performance under conditions of low brake booster vacuum. Low brake booster vacuum conditions can include initial start up after the vehicle has been parked for several hours, very frequent brake stops, or high altitude driving. The hydraulic brake boost system activates only during a brake apply under low vacuum conditions. In this case the electronic brake control module will actively increase and control the hydraulic brake pressure by turning the pump motor ON and the appropriate solenoid valves ON and OFF. When hydraulic brake boost is active, a series of rapid pulsations is felt in the brake pedal.

Trailer Brake Control System

A trailer brake control system is used to control the amount of trailer braking power that is made available to trailers with brakes that require a controlled output electrical signal for actuation. The trailer brake control system determines the trailer brake type (Electric Brake or Electric Over Hydraulic Brake) automatically.

Trailer Sway Control

The trailer sway control will detect any vehicle yaw instability, caused by an attached trailer. When instability is detected, the electronic brake control module attempts to correct the vehicle's yaw motion by applying brake pressure to one or more of the wheels. The engine torque may be reduced also, if it is necessary to slow down the vehicle.

Driver Information Indicators

Brake Warning Indicator

The instrument cluster turns the brake warning indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The body control module detects that the parking brake is engaged. The instrument cluster receives a serial data message from the body control module requesting illumination.
- The electronic brake control module detects a faulty pump motor, solenoid valves, an internal hardware failure or a too high or too low battery voltage and sends a serial data message to the instrument cluster requesting illumination.

ABS Indicator

The instrument cluster turns the ABS indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The electronic brake control module detects a malfunction which disables the ABS and sends a serial data message to the instrument cluster requesting illumination.

Hill Descent Control Indicator

The instrument cluster turns the hill descent control indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The driver manually enables or disables the hill descent control by pressing the hill descent control switch. The electronic brake control module sends a serial data message to the instrument cluster requesting illumination.

Traction Control Off Indicator

The instrument cluster turns the traction control off indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The driver manually disables the traction control by pressing the traction control switch. The electronic brake control module sends a serial data message to the instrument cluster requesting illumination.

Stability Control Off Indicator

The instrument cluster turns the stability control off indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The driver manually disables the stability control by pressing and holding the traction control switch for five seconds. The electronic brake control module sends a serial data message to the instrument cluster requesting illumination.

Traction/Stability Control Indicator

The instrument cluster turns the traction/stability control indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The ABS system is in traction control or stability control mode.
- The electronic brake control module detects a traction/stability control disabling malfunction and sends a serial data message to the instrument cluster requesting illumination.

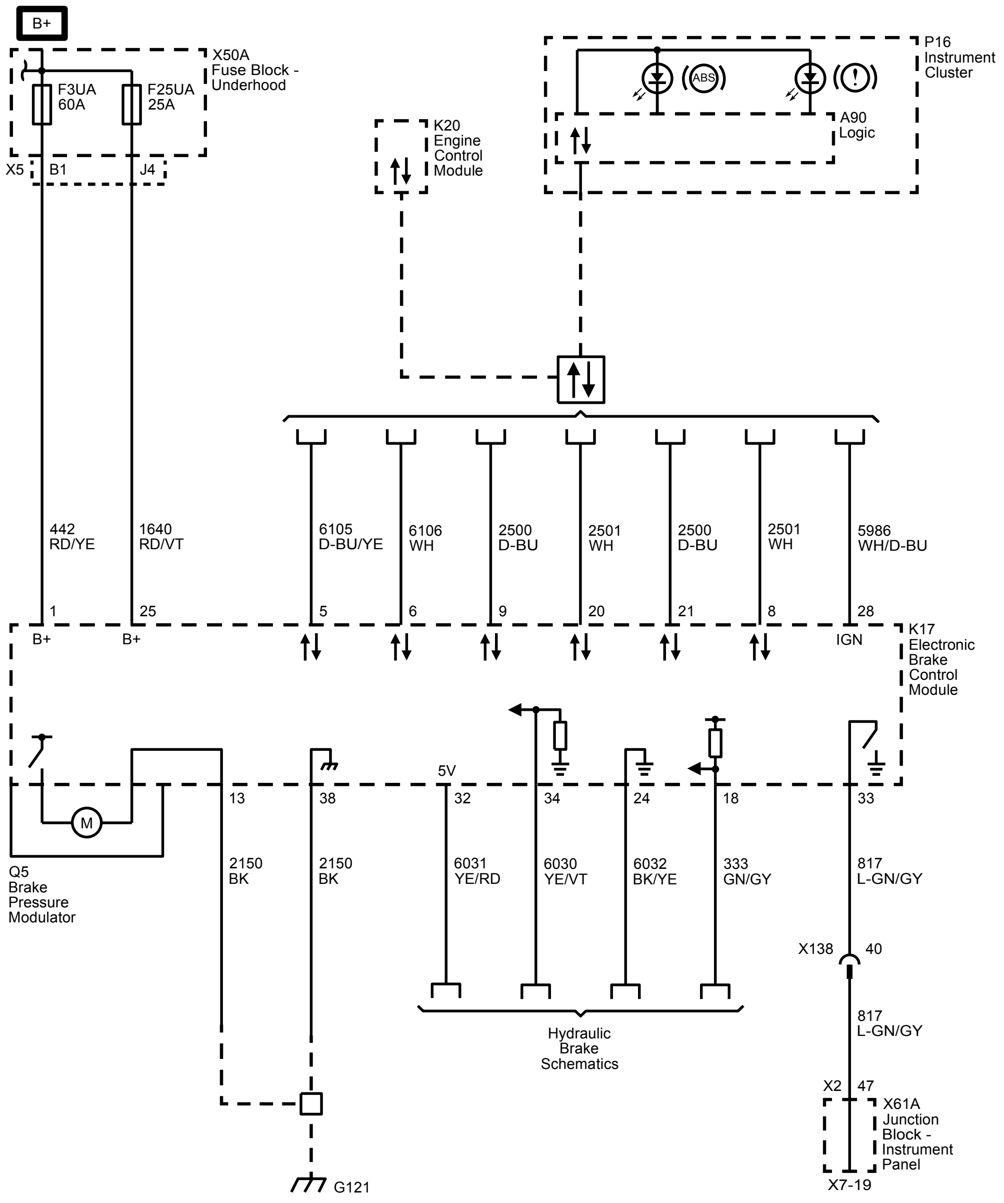
Brakes

Antilock Brake System - Less than 3900 kg (8600 lb) GVW

Schematic and Routing Diagrams

Antilock Brake System Schematics

Power, Ground, Serial Data and Traction Controls


B+
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IGN
K17
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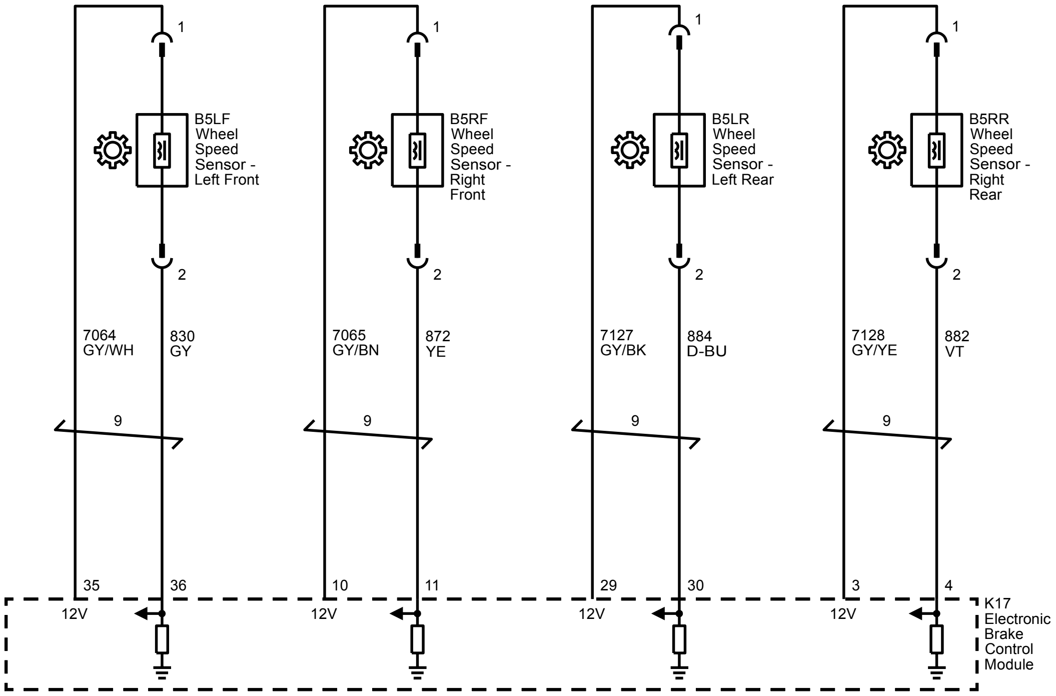
Wheel Speed Signals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B5LF
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B5RR
Wheel
Speed
Sensor -
Right
Rear
2
7128
GY/YE
882
VT
9
3
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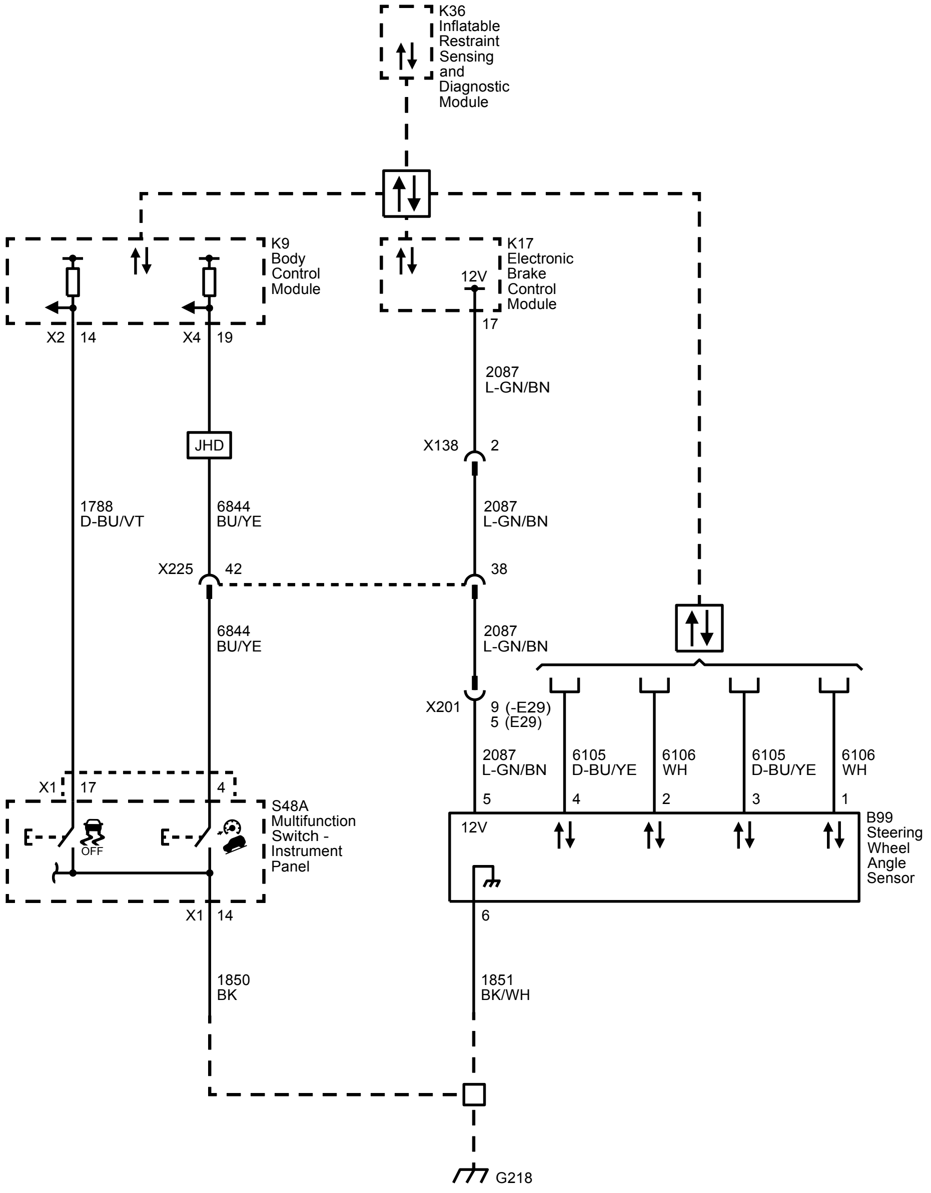
12V
K17
Electronic
Brake
Control
Module

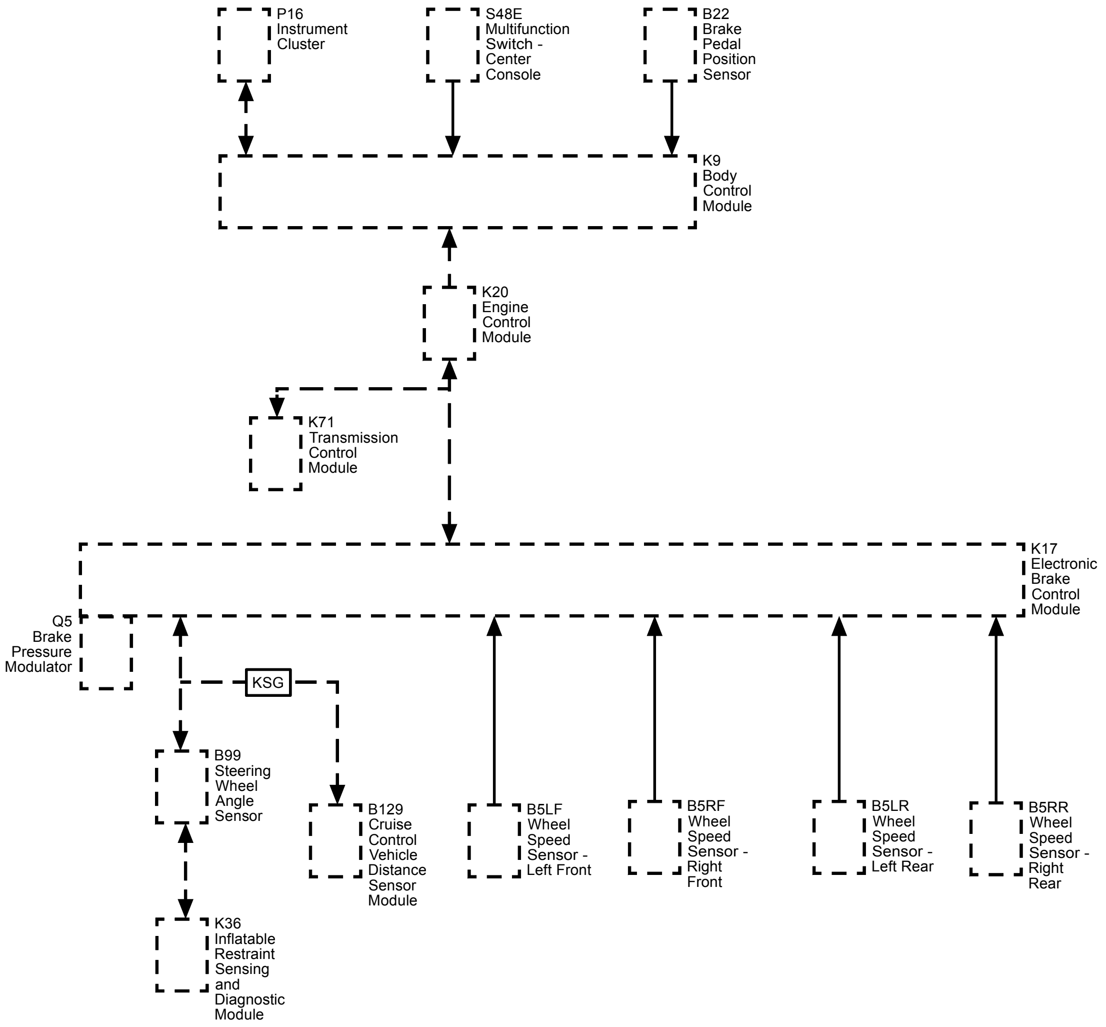
Vehicle Stability and Hill Descent Control


K36 Inflatable Restraint Sensing and Diagnostic Module
K9 Body Control Module
K17 Electronic Brake Control Module
12V
X2 14
X4 19
17
2087 L-GN/BN
JHD
X138 2
1788 D-BU/VT
6844 BU/YE
2087 L-GN/BN
X225 42
38
6844 BU/YE
2087 L-GN/BN
X201
9 (-E29)
5 (E29)
2087 L-GN/BN
6105 D-BU/YE
6106 WH
6105 D-BU/YE
6106 WH
X1 17
4
5
4
2
3
1
S48A Multifunction Switch - Instrument Panel
OFF
12V
B99 Steering Wheel Angle Sensor
X1 14
6
1850 BK
1851 BK/WH
G218

Description and Operation

ABS Description and Operation

TRW EBC460 Block Diagram


P16 Instrument Cluster
S48E Multifunction Switch - Center Console
B22 Brake Pedal Position Sensor
K9 Body Control Module
K20 Engine Control Module
K71 Transmission Control Module
K17 Electronic Brake Control Module
Q5 Brake Pressure Modulator
KSG
B99 Steering Wheel Angle Sensor
B129 Cruise Control Vehicle Distance Sensor Module
B5LF Wheel Speed Sensor - Left Front
B5RF Wheel Speed Sensor - Right Front
B5LR Wheel Speed Sensor - Left Rear
B5RR Wheel Speed Sensor - Right Rear
K36 Inflatable Restraint Sensing and Diagnostic Module

This vehicle is equipped with a TRW EBC460 brake system. The electronic brake control module and the brake pressure modulator are serviced separately. The brake pressure modulator uses a four circuit configuration to control hydraulic pressure to each wheel independently.

Depending on options, the following vehicle performance enhancement systems are provided.

- ABS
- Traction Control
- Stability Control
- Dynamic Rear Proportioning
- Hill Descent Control System
- Hill Hold Start Assist
- Cornering Brake Control
- Hydraulic Brake Assist
- Optimized Hydraulic Braking System
- Intelligent Brake Assist
- Trailer Brake Control System

- Trailer Sway Control

The following components listed below are involved in the operation of the brake system:

- Electronic brake control module - The electronic brake control module controls the system functions and detects failures. It supplies voltage to the solenoid valves and pump motor.
- Brake pressure modulator - The brake pressure modulator contains the following components:
  - Brake pressure sensor
  - Hydraulic pump with pump motor
  - Four isolation vales
  - Four dump valves
  - Two traction/stability control supply valves
  - Two traction/stability control isolation valves
  - High pressure accumulator
  - Low pressure accumulator
- Body control module monitors the brake pedal position sensor signal when the brake pedal is applied and sends a high speed serial data message to the electronic brake control module indicating the brake pedal position.
- Brake pressure sensor is used to sense the action of the driver application of the brake pedal. The sensor provides an analog voltage signal that will increase as the brake pedal is applied. The electronic brake control module monitors the brake pressure sensor which is integral to the brake pressure modulator.
- Instrument cluster - The instrument cluster displays the vehicle speed based on the information from the engine control module. The engine control module sends the vehicle speed information via a high speed serial data to the body control module. The body control module then sends the vehicle speed information via a low speed serial data to the instrument cluster in order to display the vehicle speed, either in kilometers or miles, based on the vehicle requirements.
- Multi-axis acceleration sensor - The yaw rate, lateral acceleration and longitudinal acceleration sensors are combined into one multi-axis acceleration sensor, internal to the inflatable restraint sensing and diagnostic module. The electronic brake control module receives serial data message inputs from the yaw rate, lateral acceleration and longitudinal acceleration sensor and activates stability control and hill hold start assist function depending on multi-axis acceleration sensor input.
- Multifunction switch - The traction control switch is a multifunction momentary switch. The body control module monitors the signal circuit from the traction control switch and sends a high speed serial data message to the electronic brake control module indicating the switch position. The traction control and stability control are manually disabled or enabled by pressing the traction control switch.
- Steering wheel angle sensor - The electronic brake control module receives serial data message inputs from the steering angle sensor. The steering wheel angle sensor signal is used to calculate the intended driving direction.
- Transmission control module - The electronic brake control module receives high speed serial data message inputs from the transmission control module indicating the gear position of the transmission for hill start assist or hill hold functions.
- Active wheel speed sensors - The electronic brake control module supplies a ignition voltage to each wheel speed sensor. As the wheel spins, the wheel speed sensor produces an alternating current square wave signal. The electronic brake control module uses the frequency of the square wave signal to calculate the wheel speed. The electronic brake control module uses the frequency of the square wave signal to calculate the wheel speed. The electronic brake control module sends the wheel speed information via high speed serial data to the engine control module.

Power-Up-Self Test

The electronic brake control module is able to detect many malfunctions whenever the ignition is ON. However, certain failures cannot be detected unless active diagnostic tests are performed on the components. Shorted solenoid coil or motor windings, for example, cannot be detected until the components are commanded ON by the electronic brake control module. Therefore, a power-up self-test is performed to verify correct operation of system components. The electronic brake control module performs the first phase of the power-up self-test when the ignition is first turned ON. This phase consists of internal self-testing of the electronic brake control module along with electrical checks of system sensors and circuits.

Initialization Sequence

The initialization sequence cycles each solenoid valve and the pump motor, as well as the necessary relays, for approximately forty milliseconds to check component operation. One of the checks performed is the adaptive pressure calibration that occurs when the engine is running and the brake pedal is not applied. The adaptive pressure calibration will cycle each of the six isolation valves to verify valve operation. The initialization sequence may be heard and felt while it is taking place, and is considered part of normal system operation. The active test is initiated by the electronic brake control module at the start of the ignition cycle and the speed of the fastest wheel exceeds 16 km/h (10 MPH). If a fault condition is detected the electronic brake control module sets a DTC.

ABS

When wheel slip is detected during a brake application, an ABS event occurs. During ABS braking, hydraulic pressure in the individual wheel circuits is controlled to prevent any wheel from slipping. A separate hydraulic line and specific solenoid valves are provided for each wheel. The ABS can decrease, hold, or increase hydraulic pressure to each wheel. The ABS does not, however, increase hydraulic pressure above the amount which is transmitted by the master cylinder during braking.

During ABS braking, a series of rapid pulsations is felt in the brake pedal. These pulsations are caused by the rapid changes in position of the individual solenoid valves as the electronic brake control module responds to wheel speed sensor inputs and attempts to prevent wheel slip. These pedal pulsations are present only during ABS braking and stop when normal braking is resumed or when the vehicle comes to a stop. A ticking or popping noise may also be heard as the solenoid valves cycle rapidly. During ABS braking on dry pavement, intermittent chirping noises may be heard as the tires approach slipping. These noises and pedal pulsations are considered normal during ABS operation.

Vehicles equipped with ABS may be stopped by applying normal force to the brake pedal. Brake pedal operation during normal braking is no different than that of previous non-ABS systems. Maintaining a constant force on the brake pedal provides the shortest stopping distance while maintaining vehicle stability. The typical ABS activation sequence is as follows.

Pressure Hold

The electronic brake control module closes the isolation valve and keeps the dump valve closed in order to isolate the slipping wheel when wheel slip occurs. This holds the pressure steady on the brake so that the hydraulic pressure does not increase or decrease.

Pressure Decrease

If a pressure hold does not correct the wheel slip condition, a pressure decrease occurs. The electronic brake control module decreases the pressure to individual wheels during deceleration when wheel slip occurs. The isolation valve is closed and the dump valve is opened. The excess fluid is stored in the accumulator until the pump can return the fluid to the master cylinder or fluid reservoir.

Pressure Increase

After the wheel slip is corrected, a pressure increase occurs. The electronic brake control module increases the pressure to individual wheels during deceleration in order to reduce the speed of the wheel. The isolation valve is opened and the dump valve is closed. The increased pressure is delivered from the master cylinder.

Traction Control

When drive wheel slip is noted, the electronic brake control module will enter traction control mode.

First, the electronic brake control module requests the engine control module to reduce the amount of torque to the drive wheels via a serial data message. The engine control module reduces torque to the drive wheels and reports the amount of delivered torque.

If the engine torque reduction does not reduce drive wheel slip, the electronic brake control module will actively apply the brakes on the slipping drive wheel. During traction control braking, hydraulic pressure in each drive wheel circuit is controlled to prevent the drive wheels from slipping. The electronic brake control module commands the pump motor and appropriate solenoid valves ON and OFF to apply brake pressure to the slipping wheel.

Traction control can be manually disabled or enabled by pressing the traction control switch.

Stability Control

Stability control provides added stability during aggressive maneuvers. Yaw rate is the rate of rotation about the vehicle's vertical axis. The stability control is activated when the electronic brake control module determines that the desired yaw rate does not match the actual yaw rate as measured by the yaw rate sensor.

The desired yaw rate is calculated by the electronic brake control module using the following inputs:

- Steering wheel position
- Vehicle speed
- Lateral acceleration

The difference between the desired yaw rate and the actual yaw rate is the yaw rate error, which is a measurement of oversteer or understeer. When a yaw rate error is detected, the electronic brake control module attempts to correct the vehicle's yaw motion by applying brake pressure to one or more of the wheels. The amount of applied brake pressure varies, depending on the correction required. The engine torque may be reduced also, if it is necessary to slow the vehicle while maintaining stability.

Stability control activations generally occur in turns during aggressive driving. When braking during stability control activation, the brake pedal may pulsate.

Stability control can be manually disabled or enabled by pressing and holding the traction control switch for five seconds.

Dynamic Rear Proportioning

The dynamic rear proportioning is a control system that replaces the mechanical proportioning valve. Under certain driving conditions the electronic brake control module will reduce the rear wheel brake pressure by commanding the appropriate solenoid valves ON and OFF.

Hill Descent Control System

The hill descent control system allows a smooth and controlled hill descent in rough terrain without the driver needing to touch the brake pedal. The vehicle will automatically decelerate to a low speed and remain at that speed while activated. Some noise or vibration from the brake system may be apparent when the system is active. The descent control system may be activated, if equipped, by pressing the button on the console. To activate, press the button when traveling at speeds less that 50 km/h (30 MPH). To deactivate, press the button on the console, the brake pedal, or the accelerator. Descent control enables the vehicle to descend using the ABS to control each wheel's speed. If the vehicle accelerates without driver input, the system automatically applies the brakes to slow the vehicle down to the desired speed

Hill Hold Start Assist

The hill hold start assist allows the driver to launch the vehicle without a roll back while moving the foot from the brake pedal to the accelerator pedal. The electronic brake control module calculates the brake pressure, which is needed to hold the vehicle on an incline and locks that pressure for a certain time by commanding the appropriate solenoid valves ON and OFF when the brake pedal is released. Hill hold start assist is activated when the electronic brake control module determines that the driver wishes to move the vehicle up-hill, either backwards or forwards.

The following inputs are used for hill hold start assist feature:

- Accelerator pedal position
- Brake switch
- Brake pressure
- Clutch switch, if equipped
- Engine torque
- Longitudinal acceleration
- Transmission gear information
- Vehicle speed

Cornering Brake Control

Cornering brake control is a slip control function that is intended to improve the vehicle's lateral/yaw stability during combined braking and cornering situations.

The electronic brake control module will reduce the brake pressure to the inside wheels by commanding the appropriate solenoid valves ON and OFF.

Hydraulic Brake Assist

The hydraulic brake assist function is designed to support the driver in emergency braking situations.

The electronic brake control module receives inputs from the brake pressure sensor. When the electronic brake control module senses an emergency braking situation, the electronic brake control module will actively increase the brake pressure to a specific maximum.

Intelligent Brake Assist

The intelligent brake assist function is designed to provide limited braking to help prevent front and rear low speed collisions.

The electronic brake control module receives inputs from the brake pedal position sensor, wheel speed sensors, short range radar and ultrasonic sensors to detect a collision. When the electronic brake control module senses a possible collision, it will actively increase the hydraulic brake pressure to apply the brakes.

Optimized Hydraulic Braking System

With some engines the electronic brake control module monitors the vacuum in the brake booster with a vacuum sensor and controls a brake booster vacuum pump depending on vacuum sensor input. It also has a hydraulic brake boost feature which supplements the brake system to maintain consistent brake performance under conditions of low brake booster vacuum. Low brake booster vacuum conditions can include initial start up after the vehicle has been parked for several hours, very frequent brake stops, or high altitude driving. The hydraulic brake boost system activates only during a brake apply under low vacuum conditions. In this case the electronic brake control module will actively increase and control the hydraulic brake pressure by turning the pump motor ON and the appropriate solenoid valves ON and OFF. When hydraulic brake boost is active, a series of rapid pulsations is felt in the brake pedal.

Trailer Brake Control System

A trailer brake control system is used to control the amount of trailer braking power that is made available to trailers with brakes that require a controlled output electrical signal for actuation. The trailer brake control system determines the trailer brake type (Electric Brake or Electric Over Hydraulic Brake) automatically.

Trailer Sway Control

The trailer sway control will detect any vehicle yaw instability, caused by an attached trailer. When instability is detected, the electronic brake control module attempts to correct the vehicle's yaw motion by applying brake pressure to one or more of the wheels. The engine torque may be reduced also, if it is necessary to slow down the vehicle.

Driver Information Indicators

Brake Warning Indicator

The instrument cluster turns the brake warning indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The body control module detects that the parking brake is engaged. The instrument cluster receives a serial data message from the body control module requesting illumination.
- The electronic brake control module detects a faulty pump motor, solenoid valves, an internal hardware failure or a too high or too low battery voltage and sends a serial data message to the instrument cluster requesting illumination.

ABS Indicator

The instrument cluster turns the ABS indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The electronic brake control module detects a malfunction which disables the ABS and sends a serial data message to the instrument cluster requesting illumination.

Hill Descent Control Indicator

The instrument cluster turns the hill descent control indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The driver manually enables or disables the hill descent control by pressing the hill descent control switch. The electronic brake control module sends a serial data message to the instrument cluster requesting illumination.

Traction Control Off Indicator

The instrument cluster turns the traction control off indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The driver manually disables the traction control by pressing the traction control switch. The electronic brake control module sends a serial data message to the instrument cluster requesting illumination.

Stability Control Off Indicator

The instrument cluster turns the stability control off indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The driver manually disables the stability control by pressing and holding the traction control switch for five seconds. The electronic brake control module sends a serial data message to the instrument cluster requesting illumination.

Traction/Stability Control Indicator

The instrument cluster turns the traction/stability control indicator ON when the following occurs:

- The instrument cluster performs the bulb check.
- The ABS system is in traction control or stability control mode.
- The electronic brake control module detects a traction/stability control disabling malfunction and sends a serial data message to the instrument cluster requesting illumination.

Brakes

Park Brake

Description and Operation

Park Brake System Description and Operation

System Component Description

The park brake system consists of the following:

Park Brake Pedal Assembly: Receives and transfers park brake system apply input force from driver to park brake cable system. Releases park brake system apply force on vehicles without a park brake release handle through the partial application of the park brake pedal.

Park Brake Release Handle Assembly (If equipped): Releases applied park brake system when pulled.

Park Brake Cables: Transfers input force received from park brake pedal, through park brake cable equalizer, to park brake apply lever.

Park Brake Cable Equalizer: Evenly distributes input force to both the left and right park brake units.

Park Brake Apply Lever: Multiplies and transfers input force to park brake actuator.

Park Brake Actuator/Adjuster: Uses multiplied input force from apply lever to expand park brake shoe toward the friction surface of the drum-in-hat portion of the rear brake rotor.

Threaded park brake actuators are also used to control clearance between the park brake shoe and the friction surface of the drum-in-hat portion of the rear brake rotor.

Park Brake Shoe: Applies mechanical output force from park brake actuator to friction surface of the drum-in-hat portion of the rear brake rotor.

System Operation

Park brake apply input force is received by the park brake pedal assembly being depressed, transferred and evenly distributed, through the park brake cables and the park brake cable equalizer, to the left and right park brake apply levers. The park brake apply levers multiply and transfer the apply input force to the park brake actuators which expand the park brake shoe toward the friction surface of the drum-in-hat portion of the rear brake rotor in order to prevent the rotation of the rear tire and wheel assemblies. The park brake release handle assembly, if equipped, or the partial application of the park brake pedal releases an applied park brake system when it is pulled rearward.

Brakes

Trailer Brake Controls

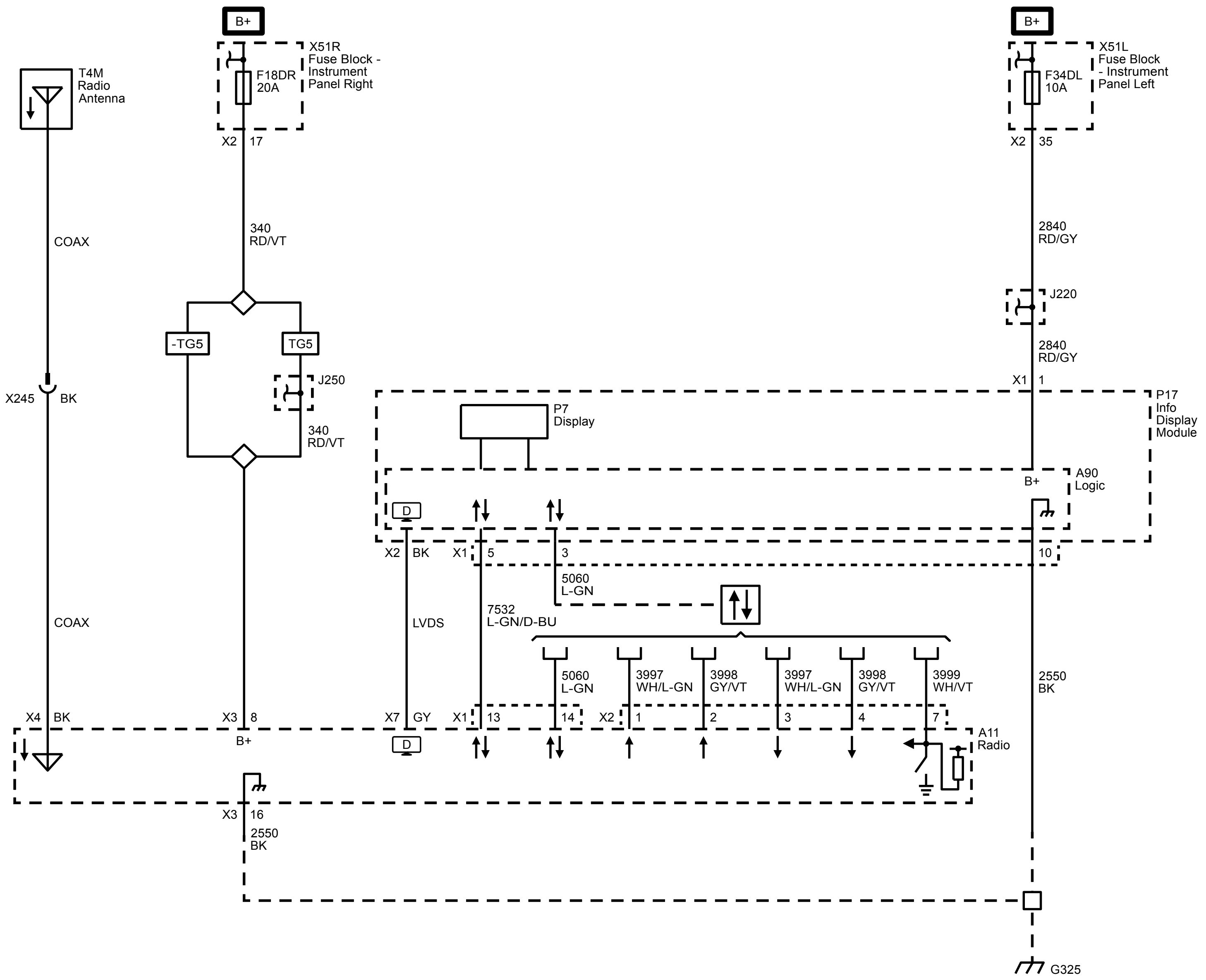
Driver Information and Entertainment

Cellular, Entertainment, and Navigation

Schematic and Routing Diagrams

Radio/Navigation System Schematics (IO3)

Radio Power, Ground, Serial Data and Antenna



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F18DR
20A
X2
17
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RD/VT
-TG5
TG5
J250
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RD/VT
T4M
Radio Antenna
COAX
X245
BK
COAX
B+
X51L
Fuse Block - Instrument Panel Left
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RD/GY
J220
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7532
L-GN/D-BU
LVDS
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WH/L-GN
3998
GY/VT
3997
WH/L-GN
3998
GY/VT
3999
WH/VT
2550
BK
X4
BK
X3
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B+
X7
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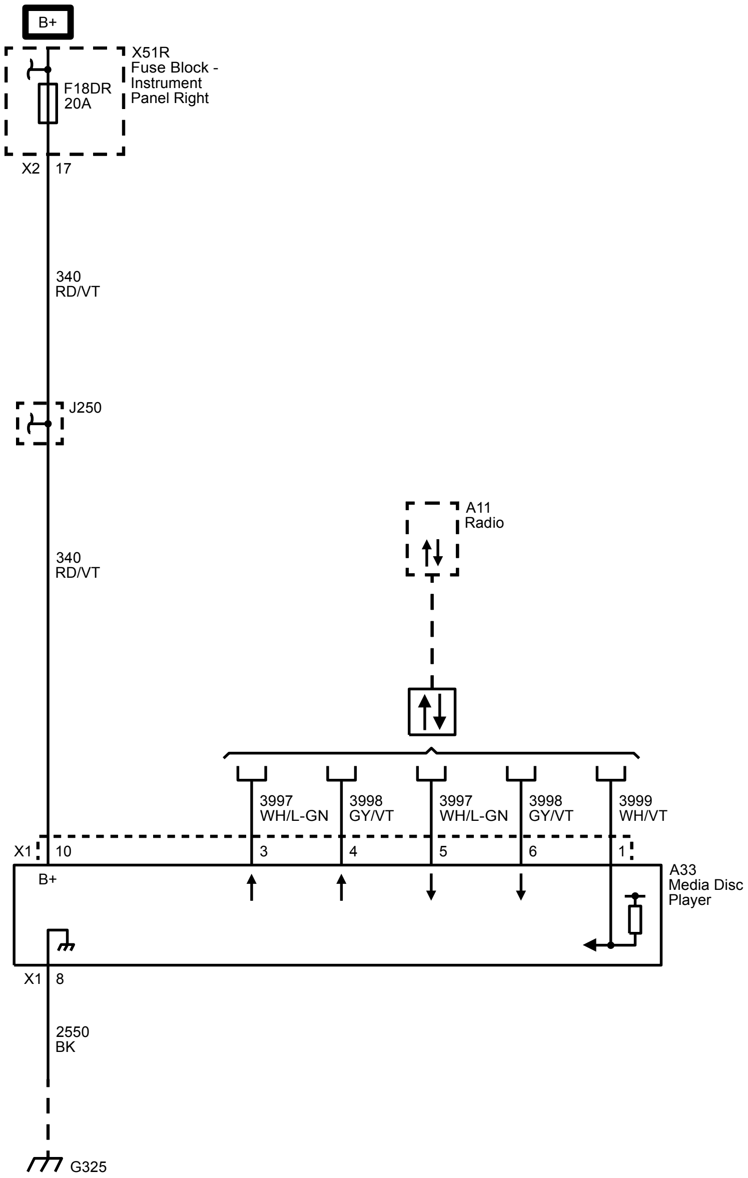
Media Disc Player Power, Ground and Serial Data (TG5)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Media Disc Player
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G325

Speakers (UQ3 or UQ5)

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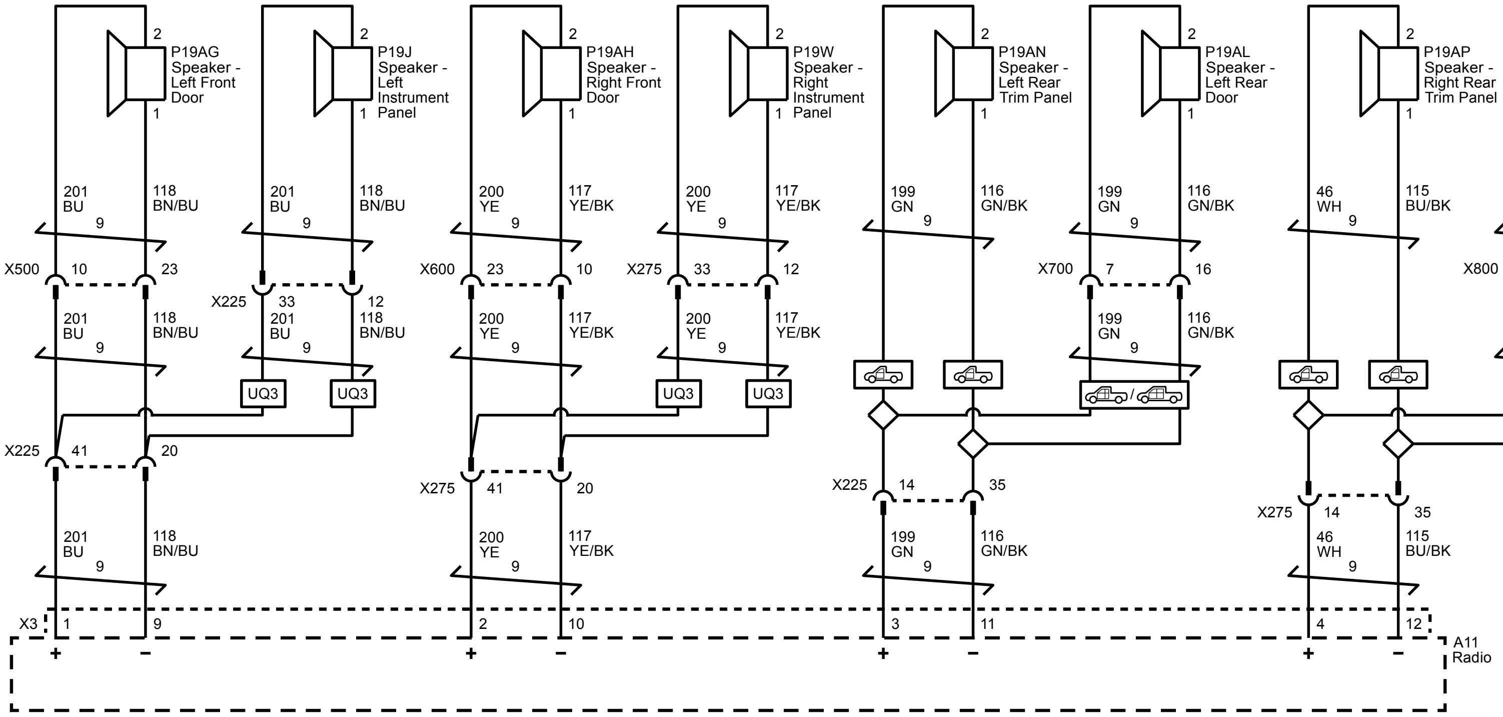
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Speaker - Left Front Door
P19J
Speaker - Left Instrument Panel
P19AH
Speaker - Right Front Door
P19W
Speaker - Right Instrument Panel
P19AN
Speaker - Left Rear Trim Panel
P19AL
Speaker - Left Rear Door
P19AP
Speaker - Right Rear Trim Panel
P19AM
Speaker - Right Rear Door
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BN/BU
200
YE
117
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199
GN
116
GN/BK
46
WH
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BU/BK
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X225
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X600
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X275
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X700
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X800
7
16
UQ3
UQ3
UQ3
UQ3
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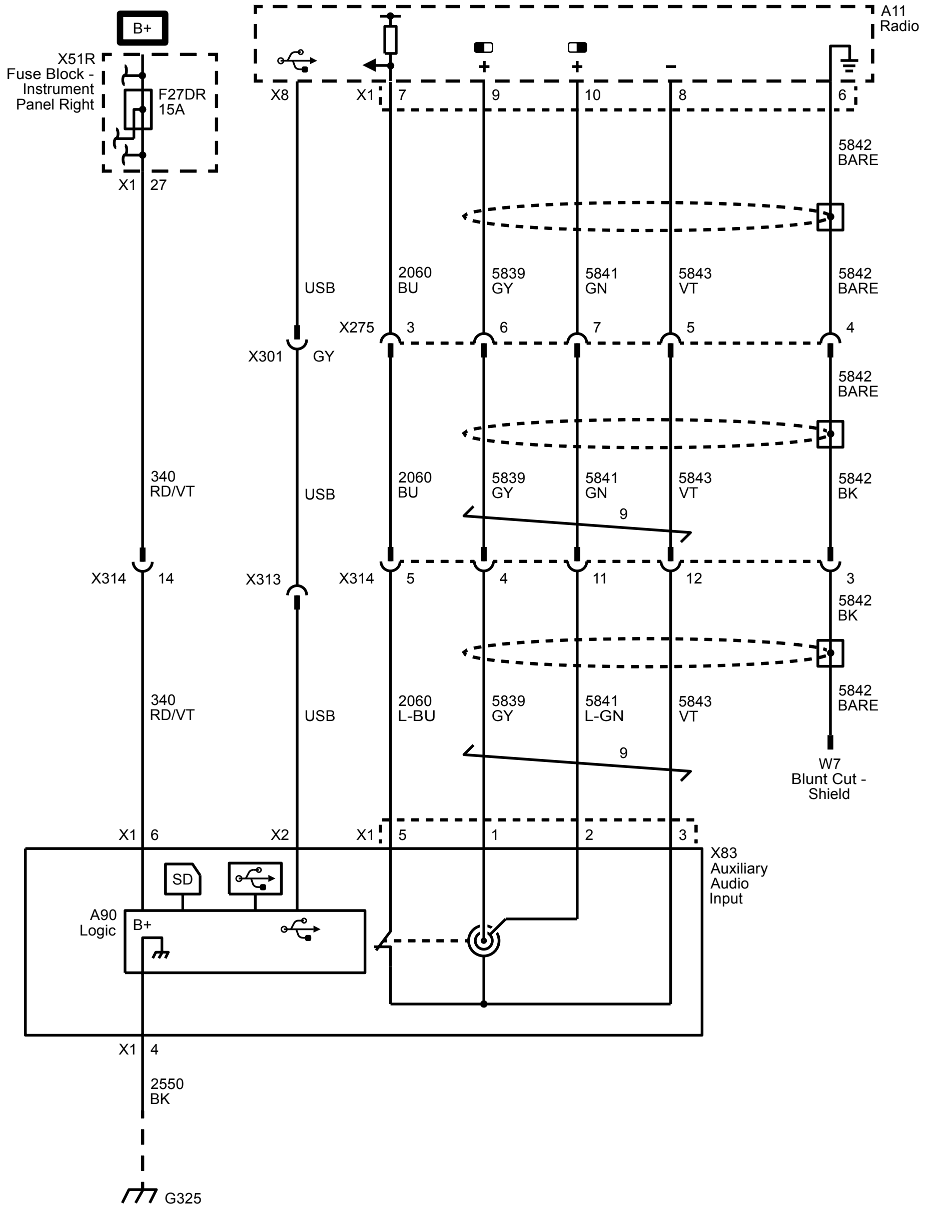
A11
Radio

Auxiliary Inputs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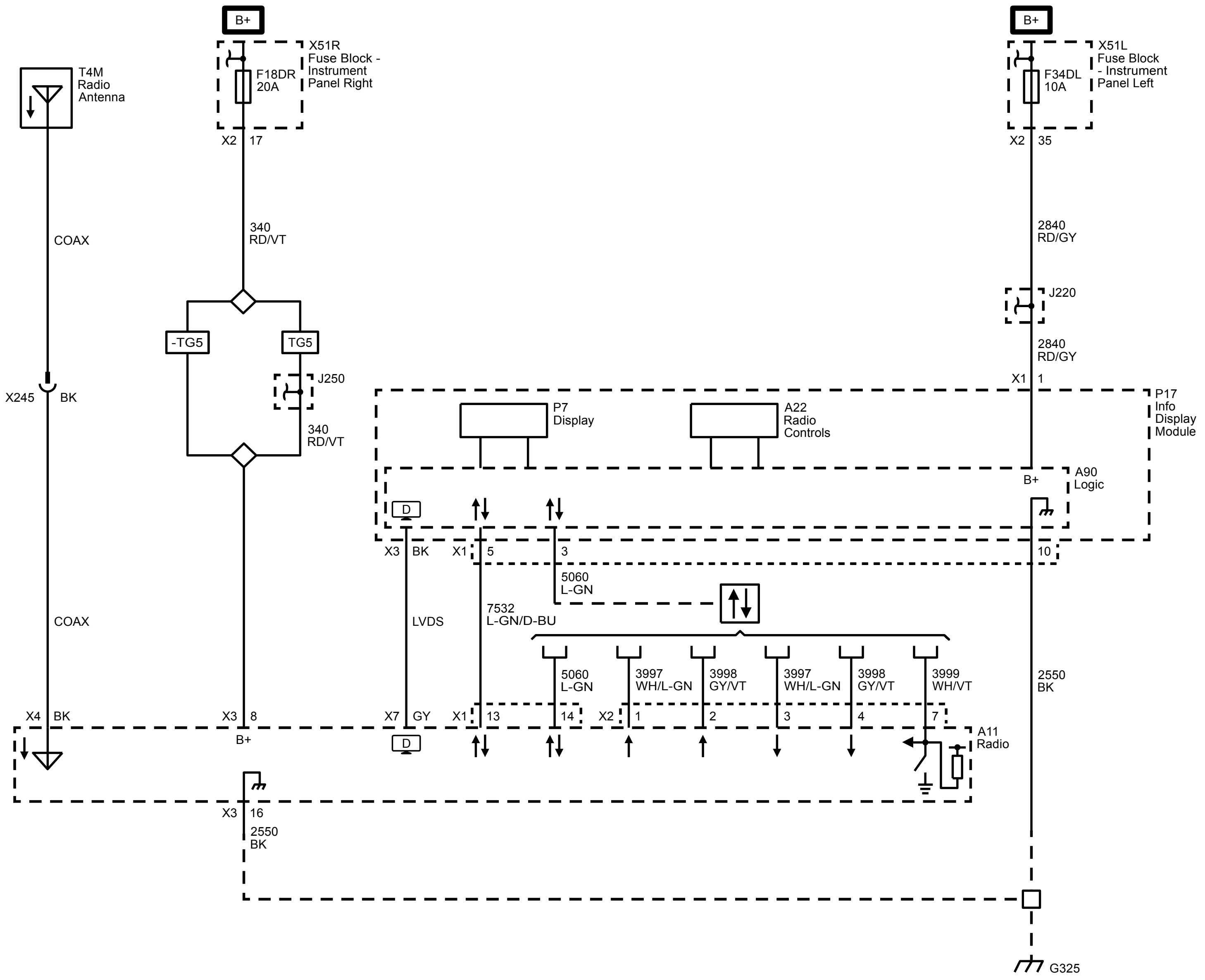
G325

Radio/Navigation System Schematics (IOB)

Radio Power, Ground, Serial Data and Antenna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Fuse Block - Instrument Panel Left
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T4M
Radio Antenna
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P17
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A22
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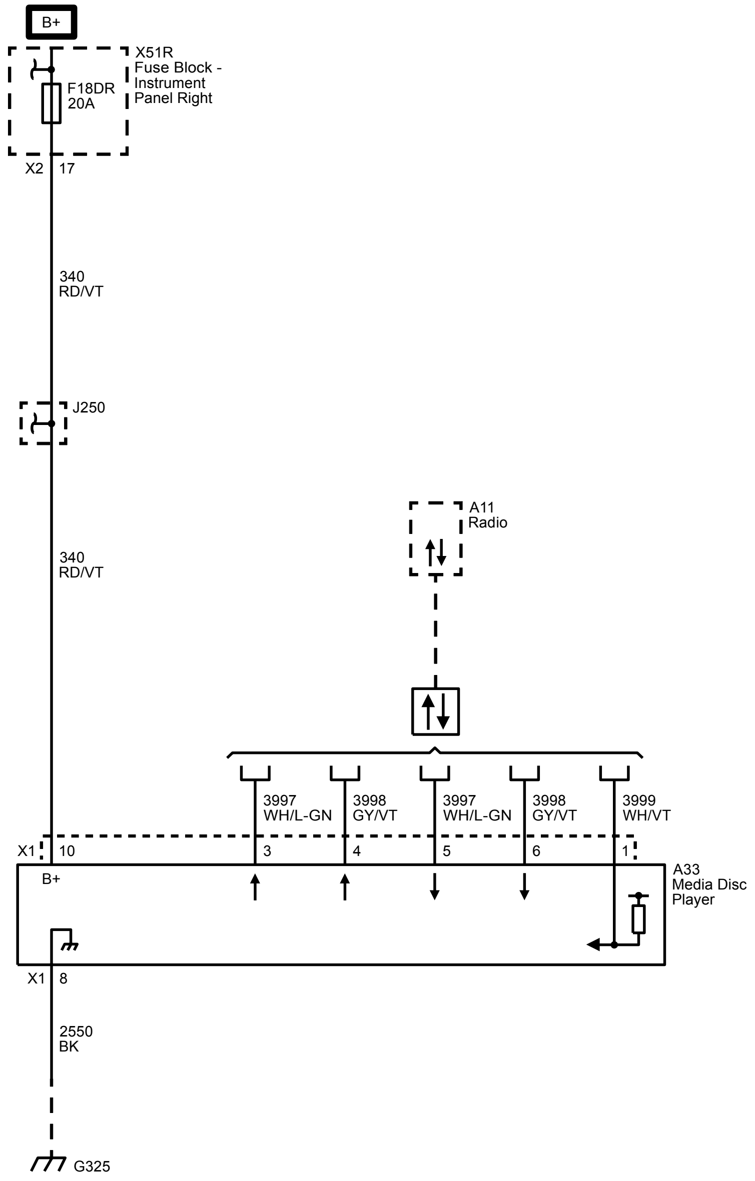
Media Disc Player Power, Ground and Serial Data (TG5)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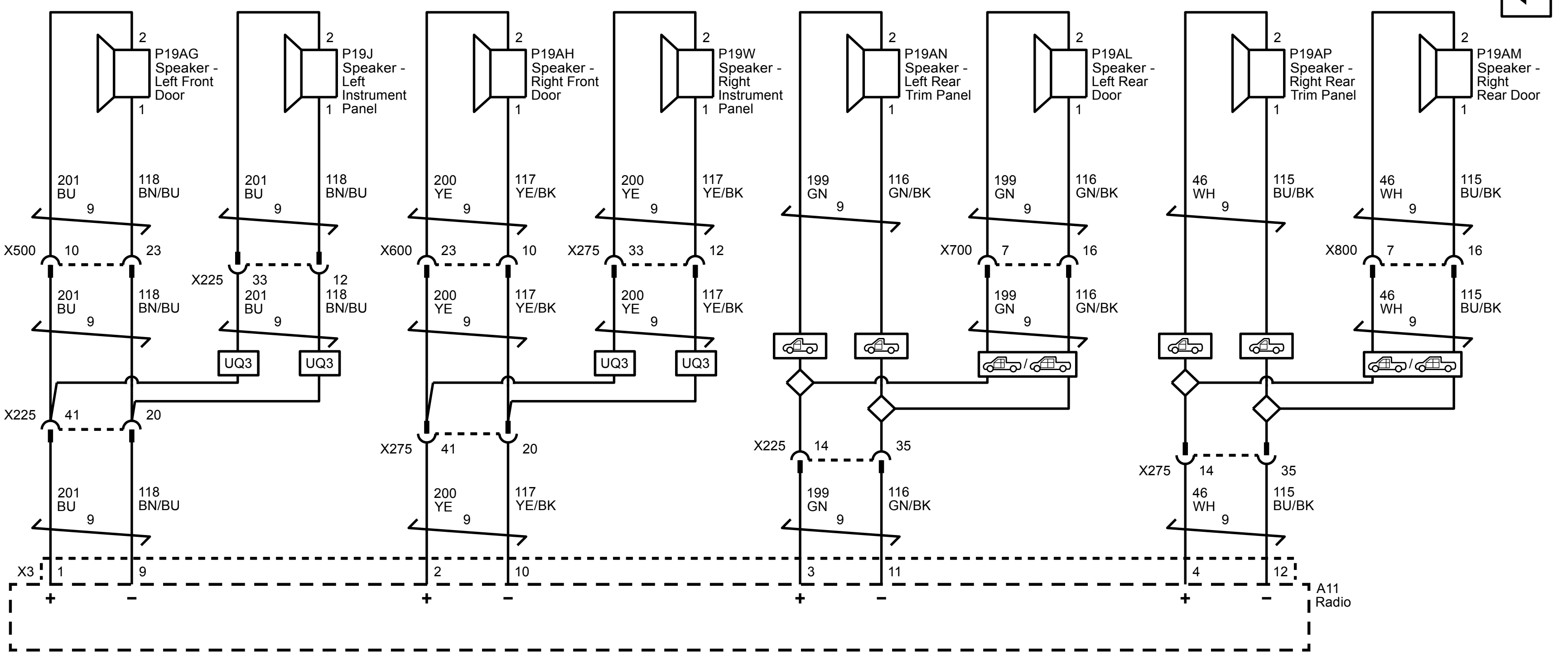
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P19J Speaker - Left Instrument Panel
P19AH Speaker - Right Front Door
P19W Speaker - Right Instrument Panel
P19AN Speaker - Left Rear Trim Panel
P19AL Speaker - Left Rear Door
P19AP Speaker - Right Rear Trim Panel
P19AM Speaker - Right Rear Door
201 BU
118 BN/BU
200 YE
117 YE/BK
199 GN
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UQ3
A11 Radio
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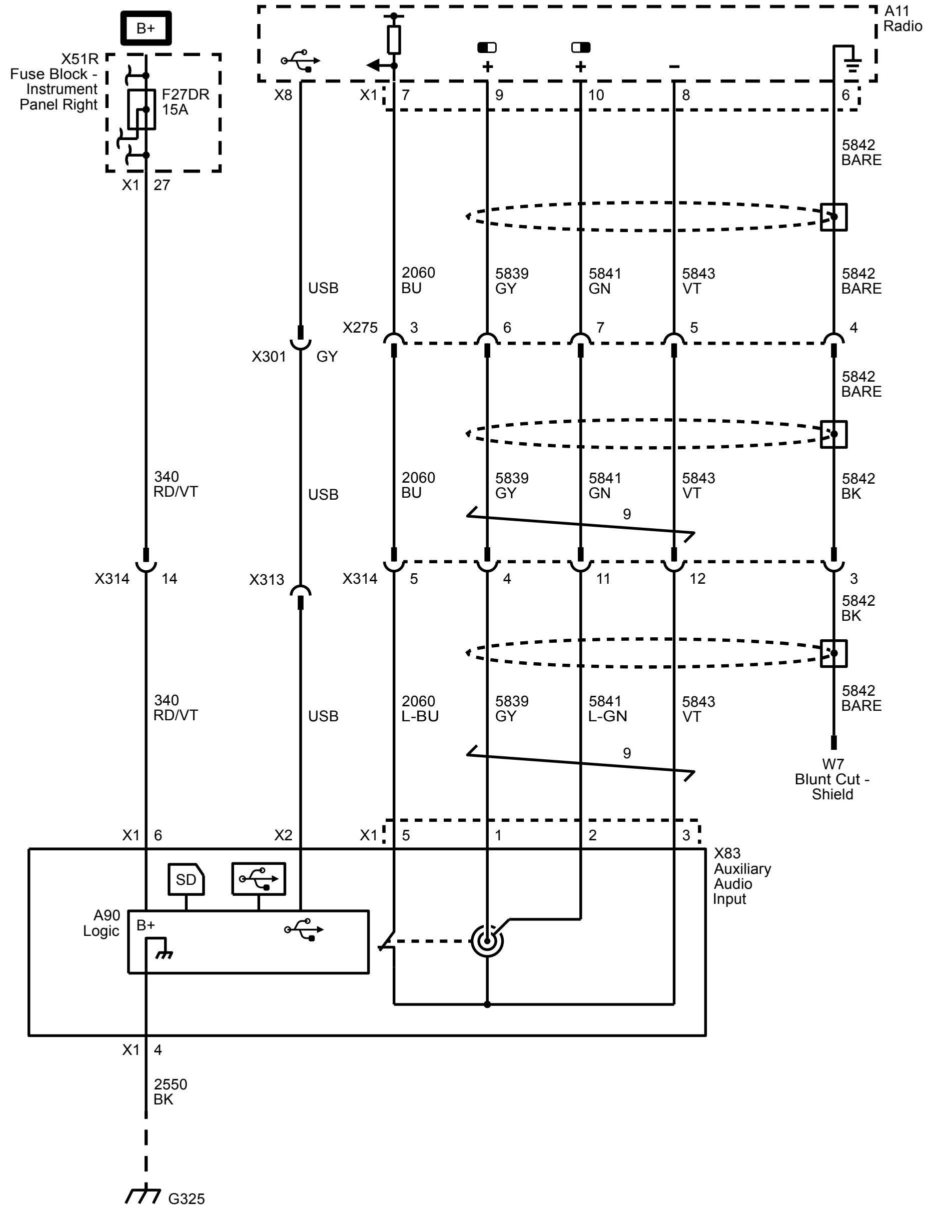
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W7
Blunt Cut -
Shield
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Audio
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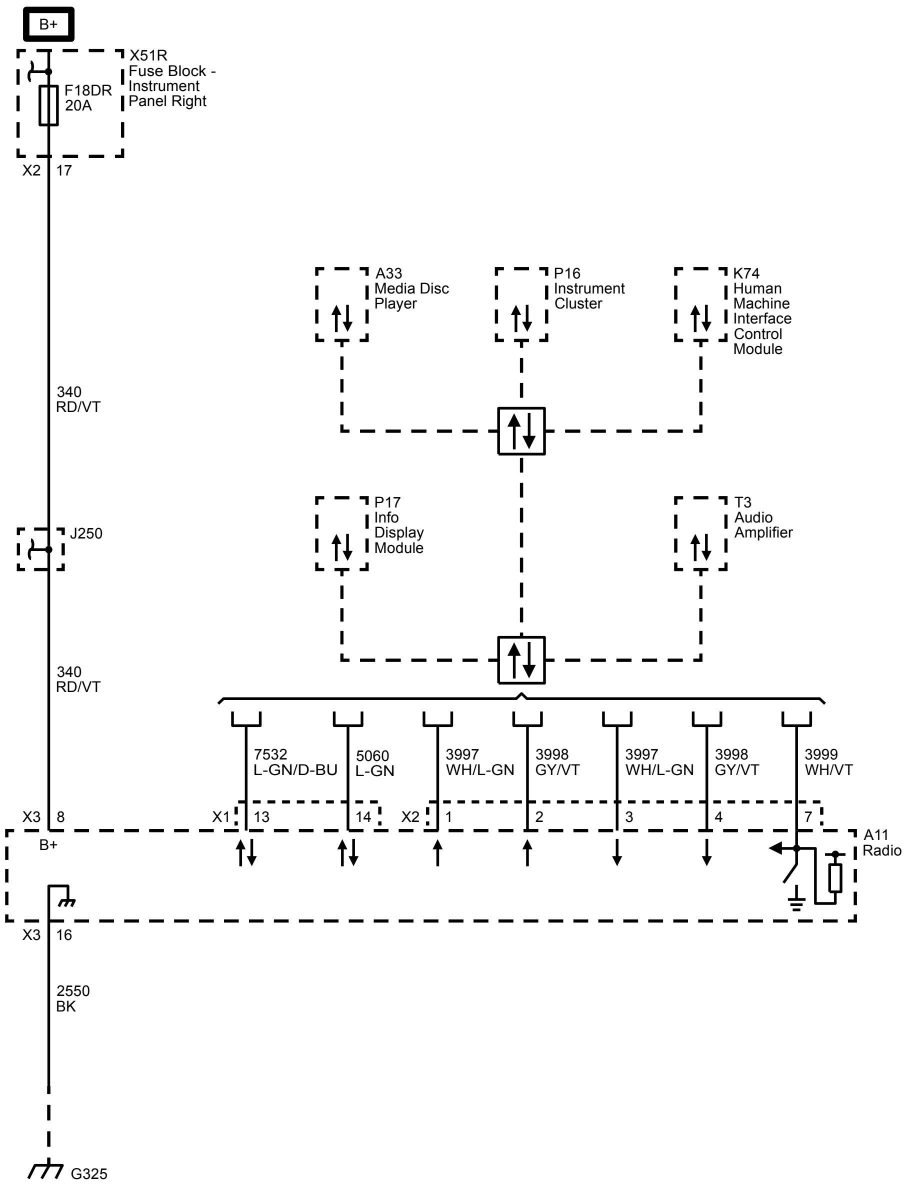
BK
G325

Radio/Navigation System Schematics (IO4, IO5, IO6)

Radio Power, Ground and Serial Data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J250
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RD/VT
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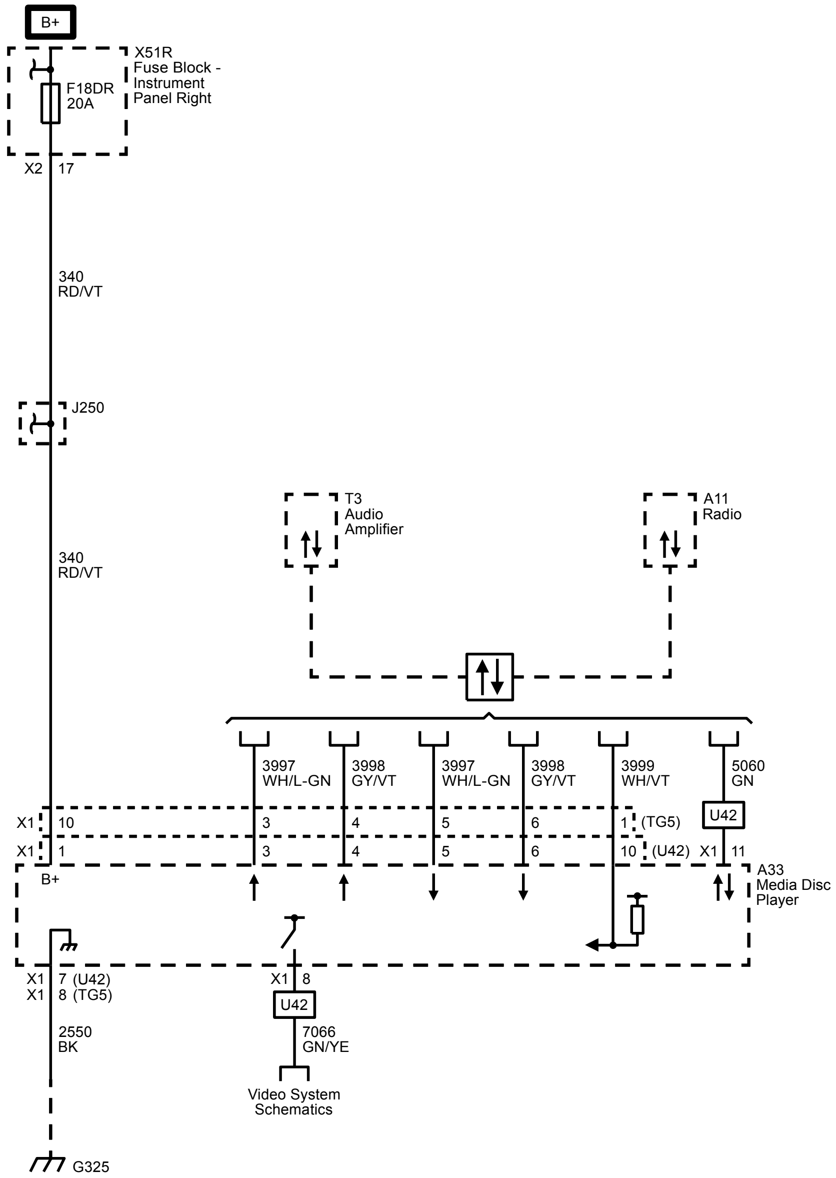
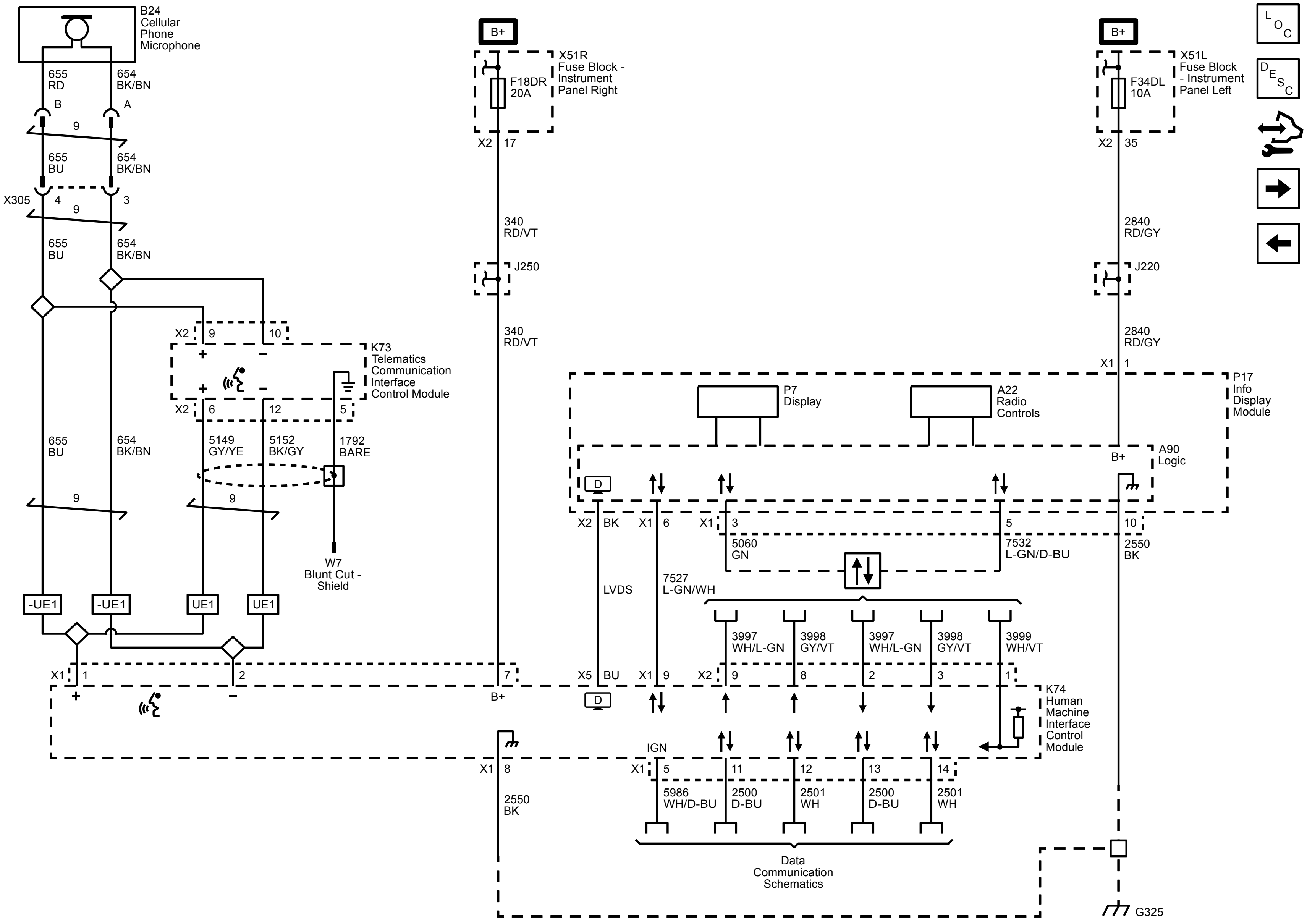
Player
P16
Instrument
Cluster
K74
Human
Machine
Interface
Control
Module
P17
Info
Display
Module
T3
Audio
Amplifier
7532
L-GN/D-BU
5060
L-GN
3997
WH/L-GN
3998
GY/VT
3997
WH/L-GN
3998
GY/VT
3999
WH/VT
X3 8
X1 13
14
X2 1
2
3
4
7
B+
A11
Radio
X3 16
2550
BK
G325

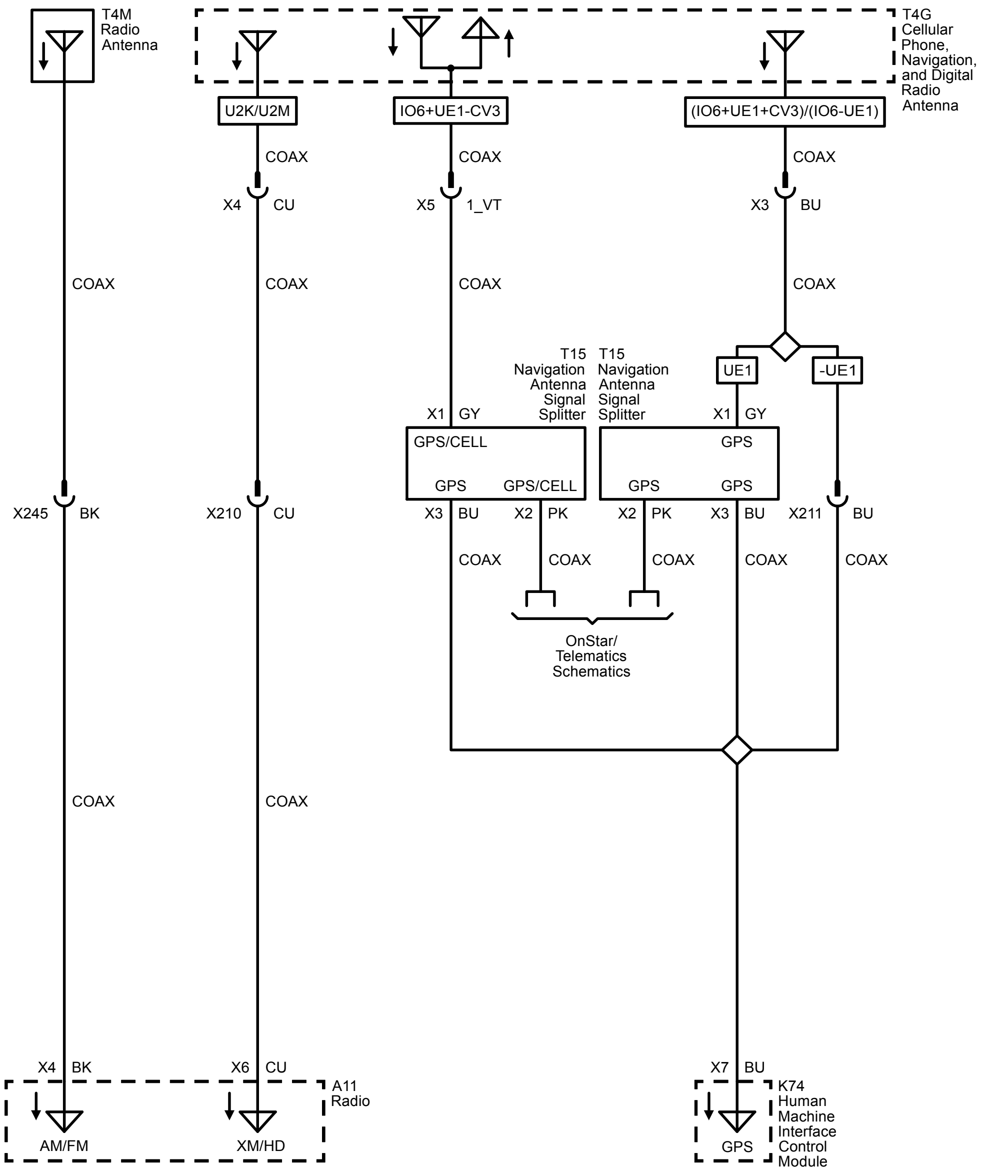
Media Disc Player Power, Ground and Serial Data (TG5 or U42)

LOC
DESC

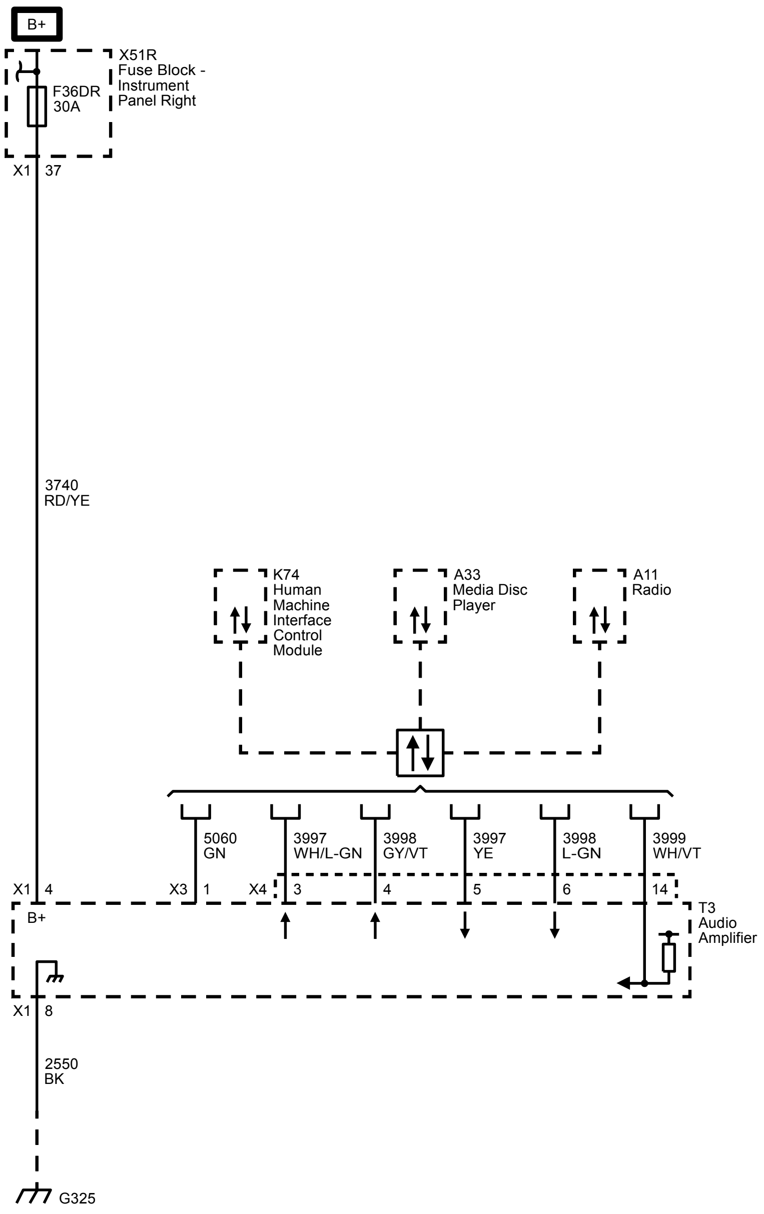

B+
X51R
Fuse Block - Instrument Panel Right
F18DR
20A
X2
17
340
RD/VT
J250
340
RD/VT
T3
Audio
Amplifier
A11
Radio
3997
WH/L-GN
3998
GY/VT
3997
WH/L-GN
3998
GY/VT
3999
WH/VT
5060
GN
U42
X1
10
3
4
5
6
1
(TG5)
X1
1
3
4
5
6
10
(U42)
X1
11
B+
A33
Media Disc
Player
X1
7 (U42)
X1
8 (TG5)
X1
8
U42
2550
BK
7066
GN/YE
Video System
Schematics
G325

Human Machine Interface, Display, Cellular Microphone, Power, Ground and Serial Data

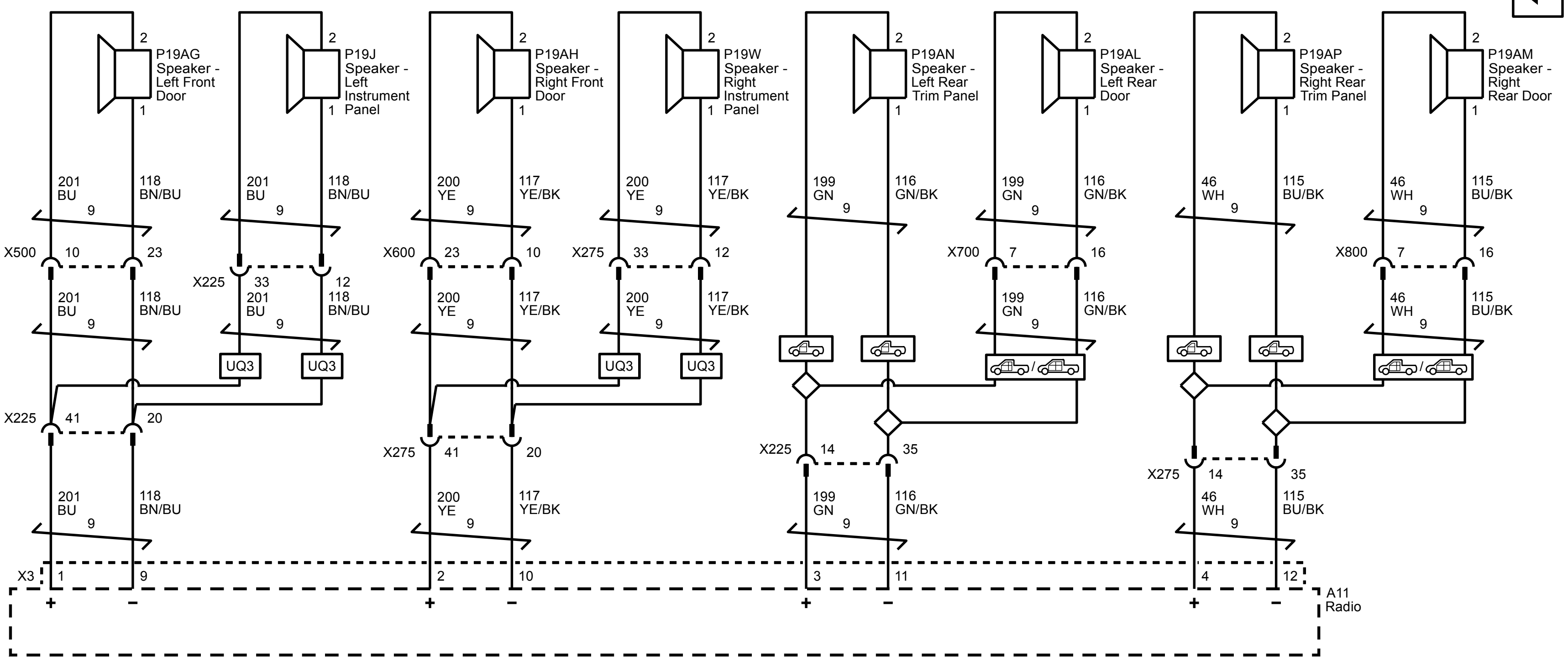

B24
Cellular
Phone
Microphone
655
RD
654
BK/BN
B
A
9
655
BU
654
BK/BN
X305
4
3
9
655
BU
654
BK/BN
X2
9
10
K73
Telematics
Communication
Interface
Control Module
+
−
X2
6
12
5
655
BU
654
BK/BN
5149
GY/YE
5152
BK/GY
1792
BARE
9
9
W7
Blunt Cut -
Shield
-UE1
-UE1
UE1
UE1
B+
X51R
Fuse Block -
Instrument
Panel Right
F18DR
20A
X2
17
340
RD/VT
J250
340
RD/VT
B+
X51L
Fuse Block
- Instrument
Panel Left
F34DL
10A
X2
35
2840
RD/GY
J220
2840
RD/GY
X1
1
P17
Info
Display
Module
P7
Display
A22
Radio
Controls
A90
Logic
B+
D
X2
BK
X1
6
X1
3
5
10
5060
GN
7532
L-GN/D-BU
2550
BK
LVDS
7527
L-GN/WH
3997
WH/L-GN
3998
GY/VT
3997
WH/L-GN
3998
GY/VT
3999
WH/VT
X1
1
2
7
X5
BU
X1
9
X2
9
8
2
3
1
K74
Human
Machine
Interface
Control
Module
B+
D
IGN
X1
8
X1
5
11
12
13
14
2550
BK
5986
WH/D-BU
2500
D-BU
2501
WH
2500
D-BU
2501
WH
Data
Communication
Schematics
G325


T4M
Radio
Antenna
T4G
Cellular
Phone,
Navigation,
and Digital
Radio
Antenna
U2K/U2M
IO6+UE1-CV3
(IO6+UE1+CV3)/(IO6-UE1)
COAX
X4
CU
X5
1_VT
X3
BU
COAX
UE1
-UE1
T15
Navigation
Antenna
Signal
Splitter
T15
Navigation
Antenna
Signal
Splitter
X1
GY
GPS/CELL
GPS
GPS/CELL
GPS
GPS
GPS
X245
BK
X210
CU
X3
BU
X2
PK
X2
PK
X3
BU
X211
BU
COAX
OnStar/
Telematics
Schematics
X4
BK
X6
CU
A11
Radio
AM/FM
XM/HD
X7
BU
K74
Human
Machine
Interface
Control
Module
GPS

Audio Amplifier Power, Ground and Serial Data (UQA or UQG)

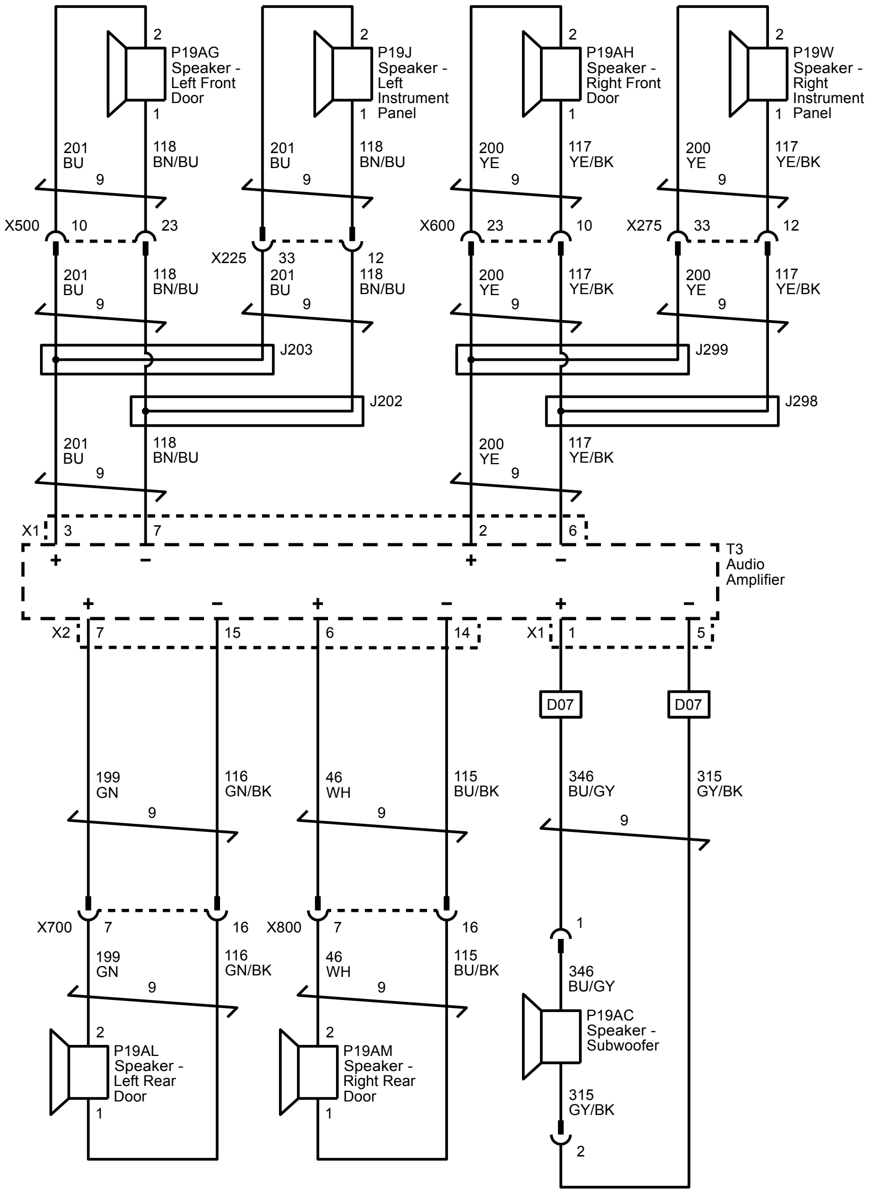

B+
X51R
Fuse Block -
Instrument
Panel Right
F36DR
30A
X1
37
3740
RD/YE
K74
Human
Machine
Interface
Control
Module
A33
Media Disc
Player
A11
Radio
5060
GN
3997
WH/L-GN
3998
GY/VT
3997
YE
3998
L-GN
3999
WH/VT
X1
4
X3
1
X4
3
4
5
6
14
B+
T3
Audio
Amplifier
X1
8
2550
BK
G325

Speakers (UQ3 or UQ5)

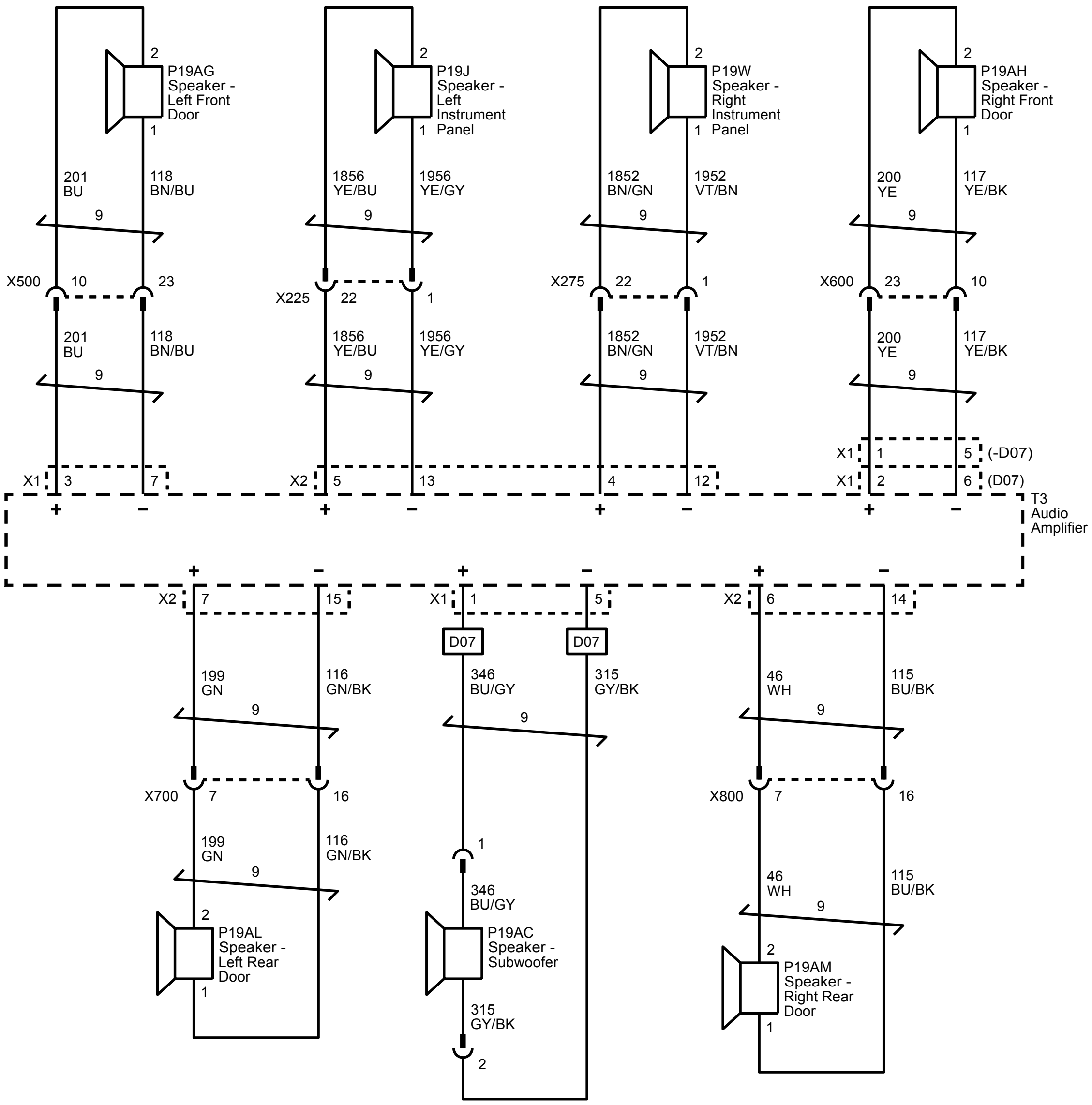


P19AG Speaker - Left Front Door
P19J Speaker - Left Instrument Panel
P19AH Speaker - Right Front Door
P19W Speaker - Right Instrument Panel
P19AN Speaker - Left Rear Trim Panel
P19AL Speaker - Left Rear Door
P19AP Speaker - Right Rear Trim Panel
P19AM Speaker - Right Rear Door
2
1
201 BU
118 BN/BU
200 YE
117 YE/BK
199 GN
116 GN/BK
46 WH
115 BU/BK
9
X500
10
23
X225
33
12
X600
23
10
X275
33
12
X700
7
16
X800
7
16
UQ3
X225
41
20
X275
41
20
X225
14
35
X275
14
35
X3
1
9
2
10
3
11
4
12
+
–
A11 Radio

Speakers (UQG)

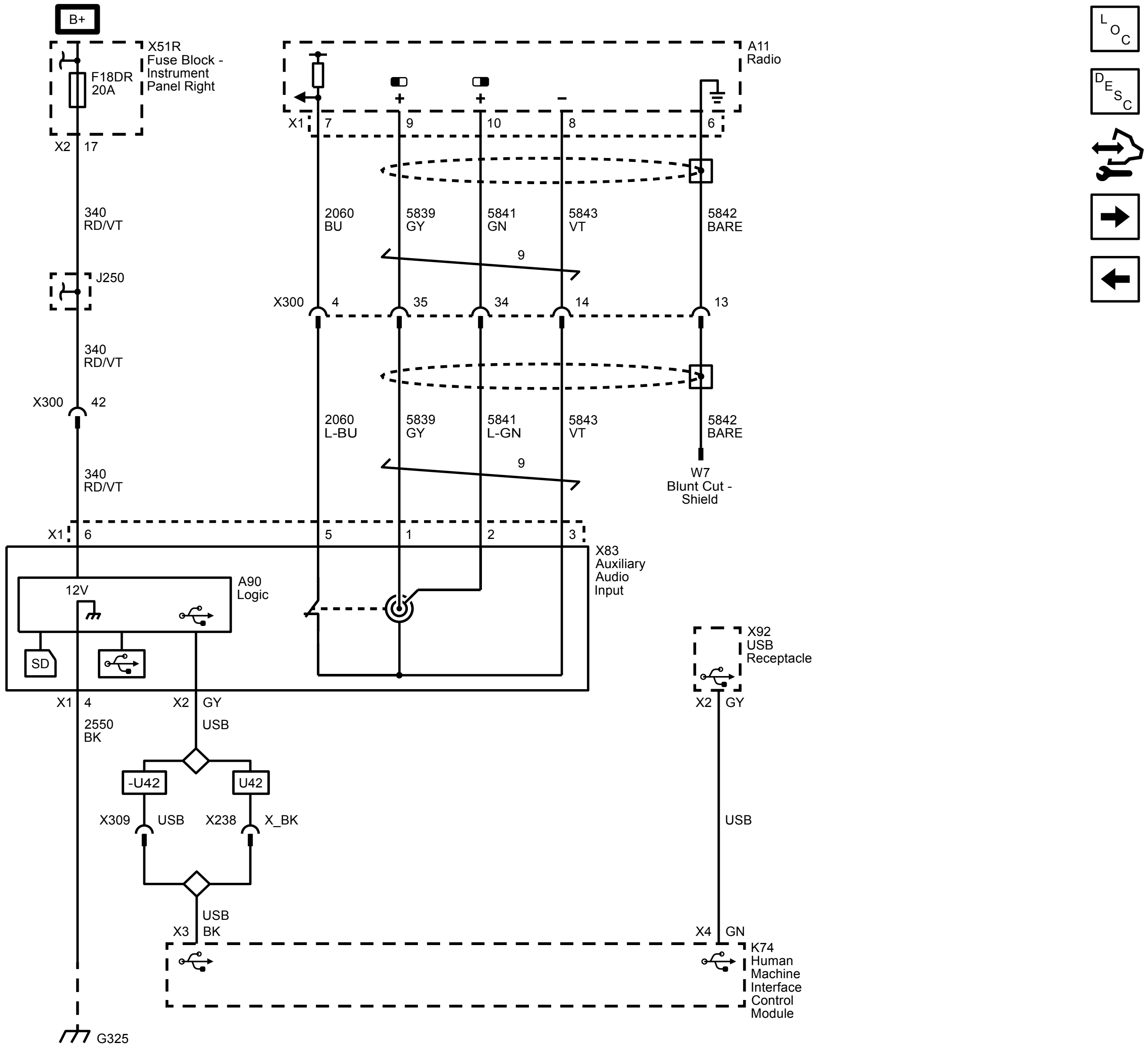

P19AG Speaker - Left Front Door
P19J Speaker - Left Instrument Panel
P19AH Speaker - Right Front Door
P19W Speaker - Right Instrument Panel
2
1
201 BU
118 BN/BU
200 YE
117 YE/BK
9
X500
10
23
X225
33
12
X600
23
10
X275
33
12
J203
J202
J299
J298
X1
3
7
2
6
+
–
T3 Audio Amplifier
X2
7
15
6
14
X1
1
5
D07
D07
199 GN
116 GN/BK
46 WH
115 BU/BK
346 BU/GY
315 GY/BK
X700
7
16
X800
7
16
1
2
P19AL Speaker - Left Rear Door
P19AM Speaker - Right Rear Door
P19AC Speaker - Subwoofer

Speakers (UQA)



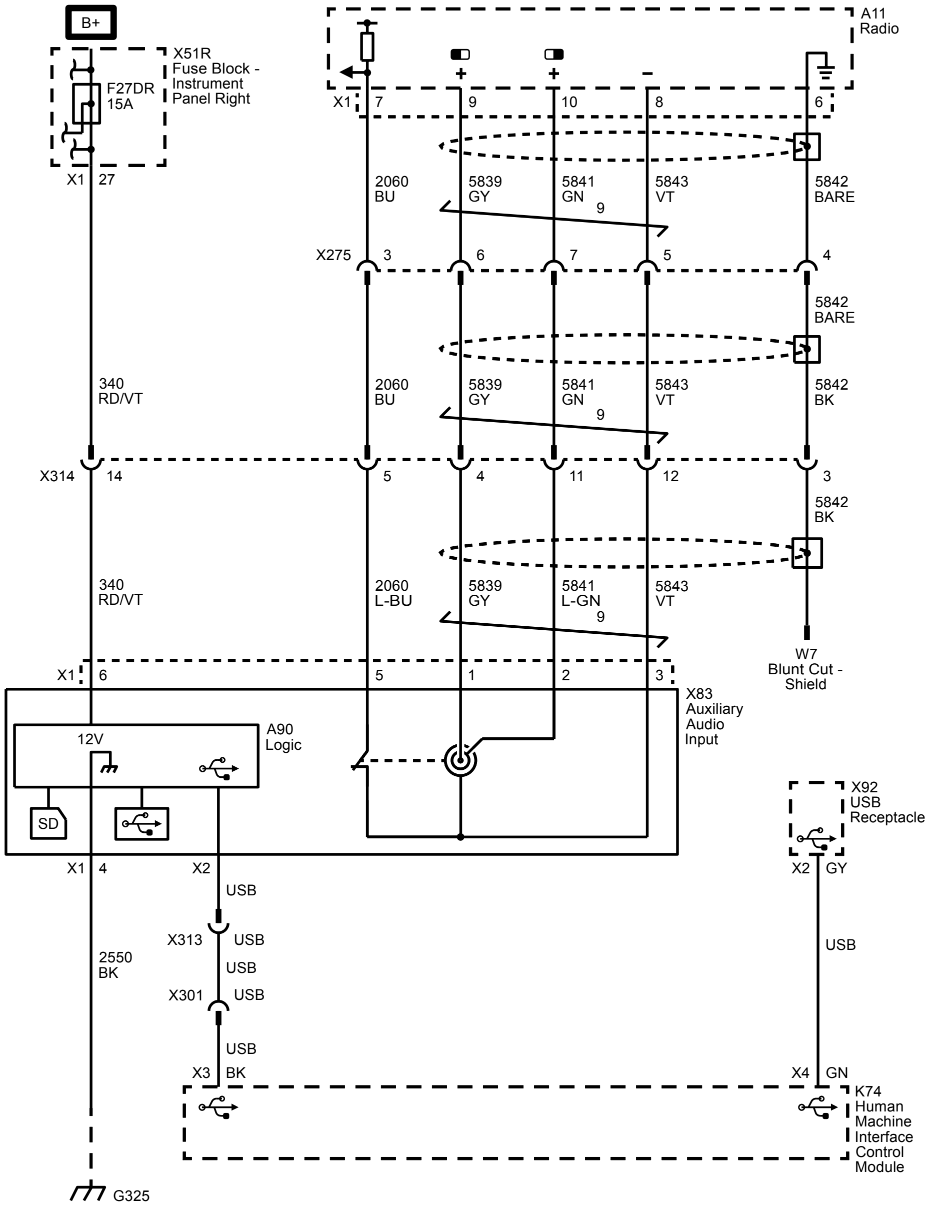
P19AG Speaker - Left Front Door
P19J Speaker - Left Instrument Panel
P19W Speaker - Right Instrument Panel
P19AH Speaker - Right Front Door
2
1
201 BU
118 BN/BU
1856 YE/BU
1956 YE/GY
1852 BN/GN
1952 VT/BN
200 YE
117 YE/BK
9
X500 10 23
X225 22 1
X275 22 1
X600 23 10
X1 3 7
X2 5 13
4 12
X1 1 5 (-D07)
X1 2 6 (D07)
+
−
T3 Audio Amplifier
X2 7 15
X1 1 5
X2 6 14
D07
199 GN
116 GN/BK
346 BU/GY
315 GY/BK
46 WH
115 BU/BK
X700 7 16
X800 7 16
P19AL Speaker - Left Rear Door
P19AC Speaker - Subwoofer
P19AM Speaker - Right Rear Door

Auxiliary Inputs (D07)

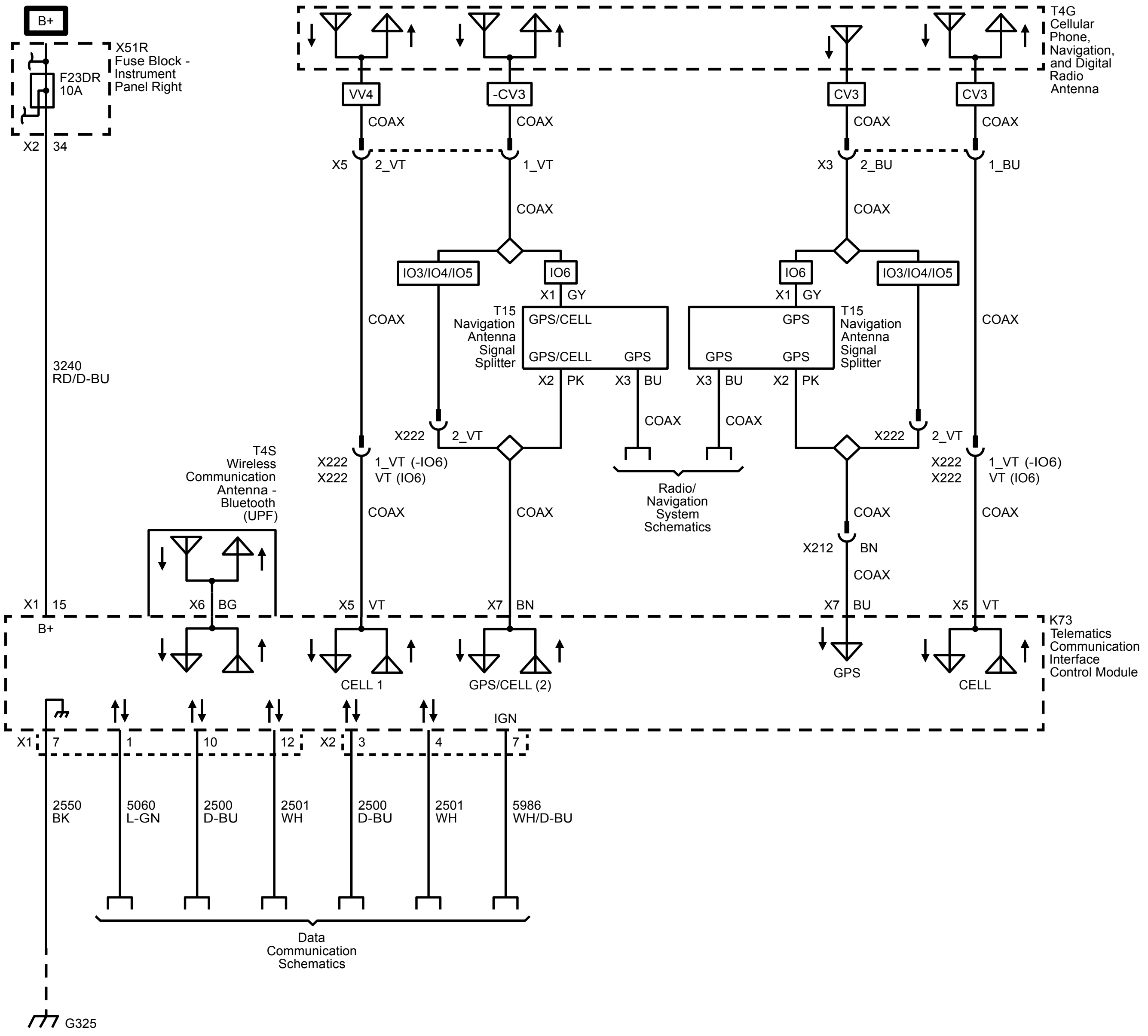


B+
X51R
Fuse Block - Instrument Panel Right
F18DR
20A
X2
17
340
RD/VT
J250
340
RD/VT
X300
42
340
RD/VT
A11
Radio
X1
7
9
10
8
6
2060
BU
5839
GY
5841
GN
5843
VT
5842
BARE
9
X300
4
35
34
14
13
2060
L-BU
5839
GY
5841
L-GN
5843
VT
5842
BARE
9
W7
Blunt Cut - Shield
X1
6
5
1
2
3
X83
Auxiliary Audio Input
12V
A90
Logic
SD
X1
4
2550
BK
X2
GY
USB
-U42
U42
X309
USB
X238
X_BK
USB
BK
X3
X92
USB Receptacle
X2
GY
USB
X4
GN
K74
Human Machine Interface Control Module
G325

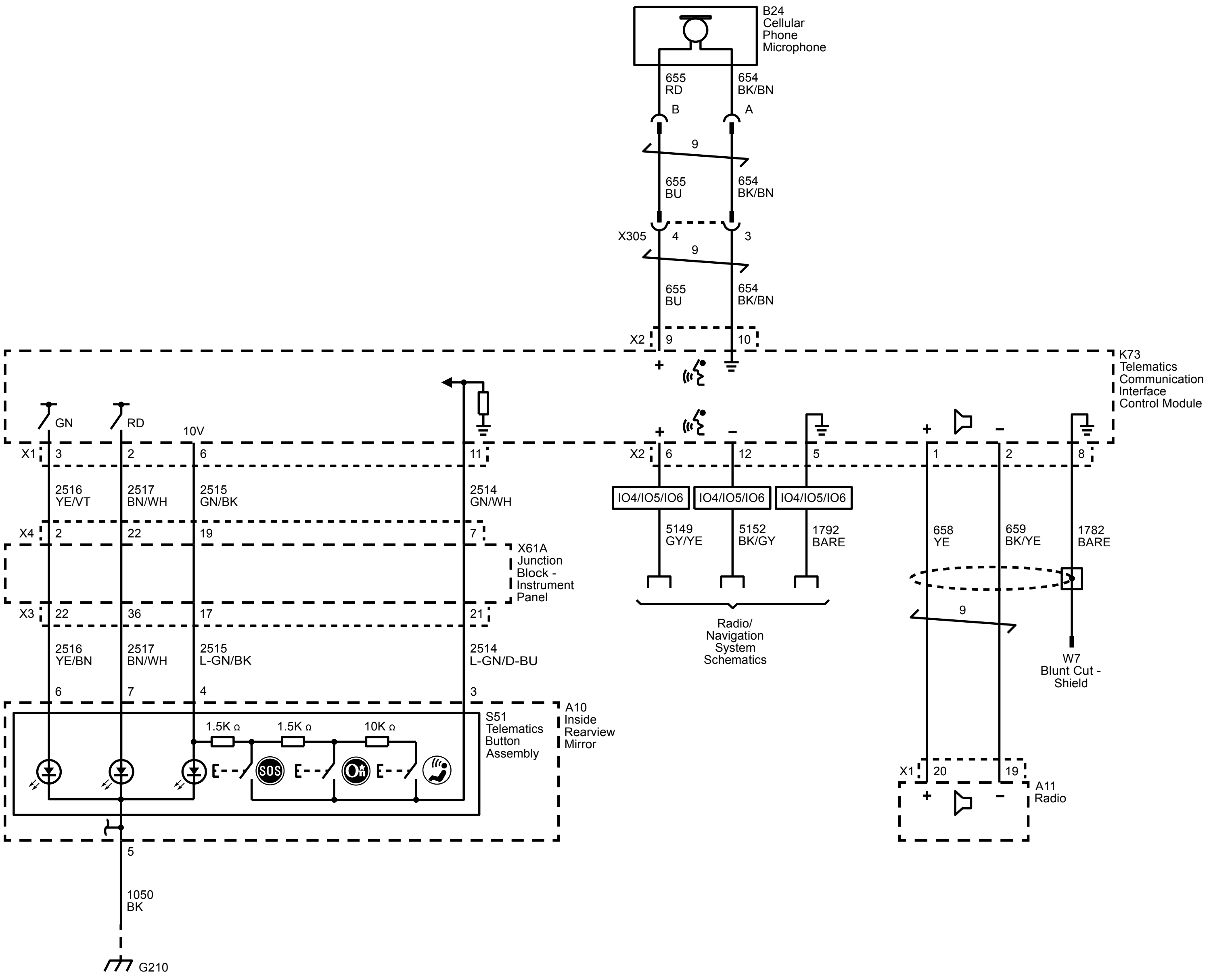
Auxiliary Inputs (D09)


B+
X51R
Fuse Block -
Instrument
Panel Right
F27DR
15A
X1 27
340
RD/VT
X314 14
340
RD/VT
X1 6
A90
Logic
12V
SD
X1 4
2550
BK
G325
X2
USB
X313 USB
USB
X301 USB
USB
X3 BK
A11
Radio
X1 7
9
10
8
6
+
+
–
2060
BU
5839
GY
5841
GN
5843
VT
9
5842
BARE
X275 3
6
7
5
4
5842
BARE
2060
BU
5839
GY
5841
GN
5843
VT
9
5842
BK
5
4
11
12
3
5842
BK
2060
L-BU
5839
GY
5841
L-GN
5843
VT
9
W7
Blunt Cut -
Shield
5
1
2
3
X83
Auxiliary
Audio
Input
X92
USB
Receptacle
X2 GY
USB
X4 GN
K74
Human
Machine
Interface
Control
Module

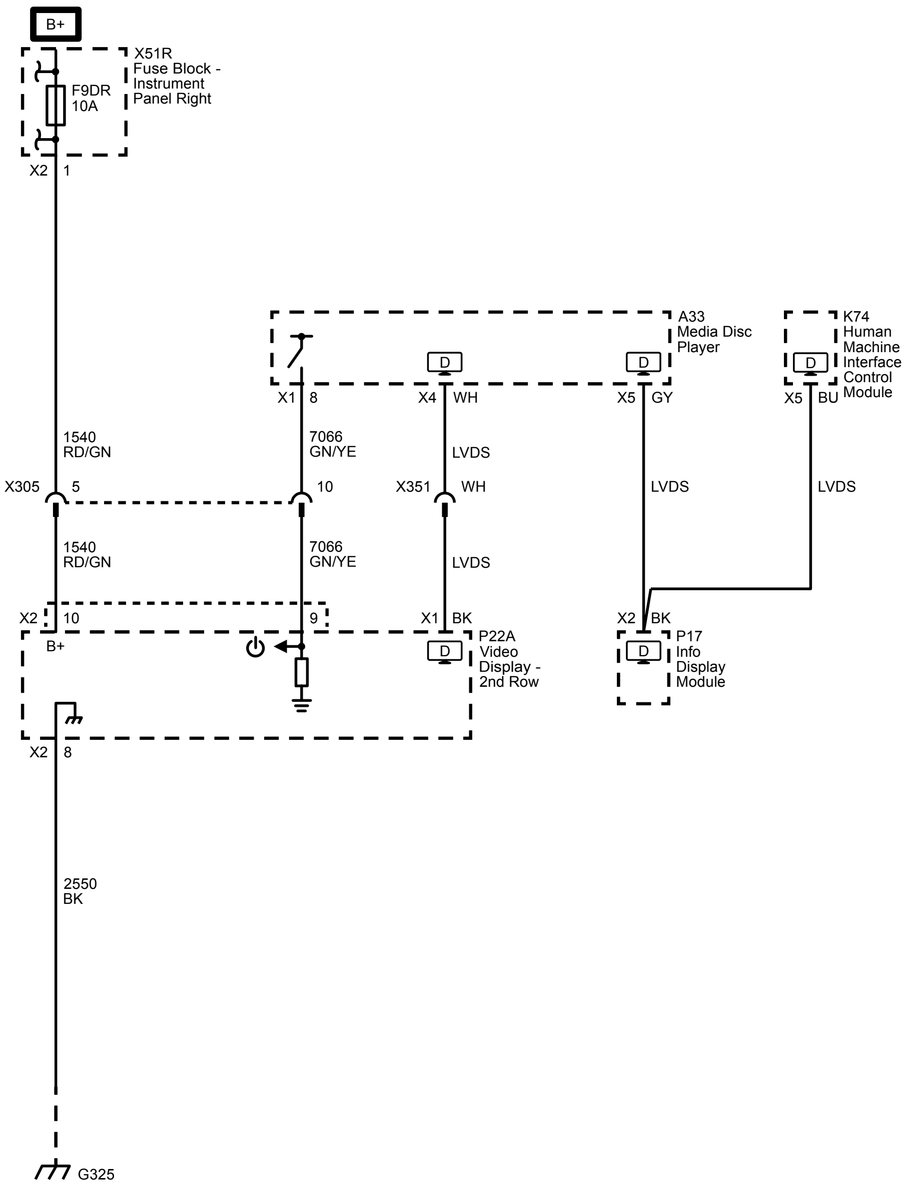
Power, Ground, Serial Data and Antennas (UE1)


B+
X51R
Fuse Block -
Instrument
Panel Right
F23DR
10A
X2 34
3240
RD/D-BU
T4G
Cellular
Phone,
Navigation,
and Digital
Radio
Antenna
VV4
-CV3
CV3
CV3
COAX
X5 2_VT
1_VT
X3 2_BU
1_BU
IO3/IO4/IO5
IO6
X1 GY
T15
Navigation
Antenna
Signal
Splitter
GPS/CELL
GPS
X2 PK
X3 BU
X222 2_VT
X222 1_VT (-IO6)
X222 VT (IO6)
Radio/
Navigation
System
Schematics
X212 BN
T4S
Wireless
Communication
Antenna -
Bluetooth
(UPF)
X1 15
B+
X6 BG
X5 VT
X7 BN
X7 BU
CELL 1
GPS/CELL (2)
GPS
CELL
K73
Telematics
Communication
Interface
Control Module
IGN
X1 7
1
10
12
X2 3
4
7
2550
BK
5060
L-GN
2500
D-BU
2501
WH
5986
WH/D-BU
Data
Communication
Schematics
G325

Controls and Audio Signals (UE1)

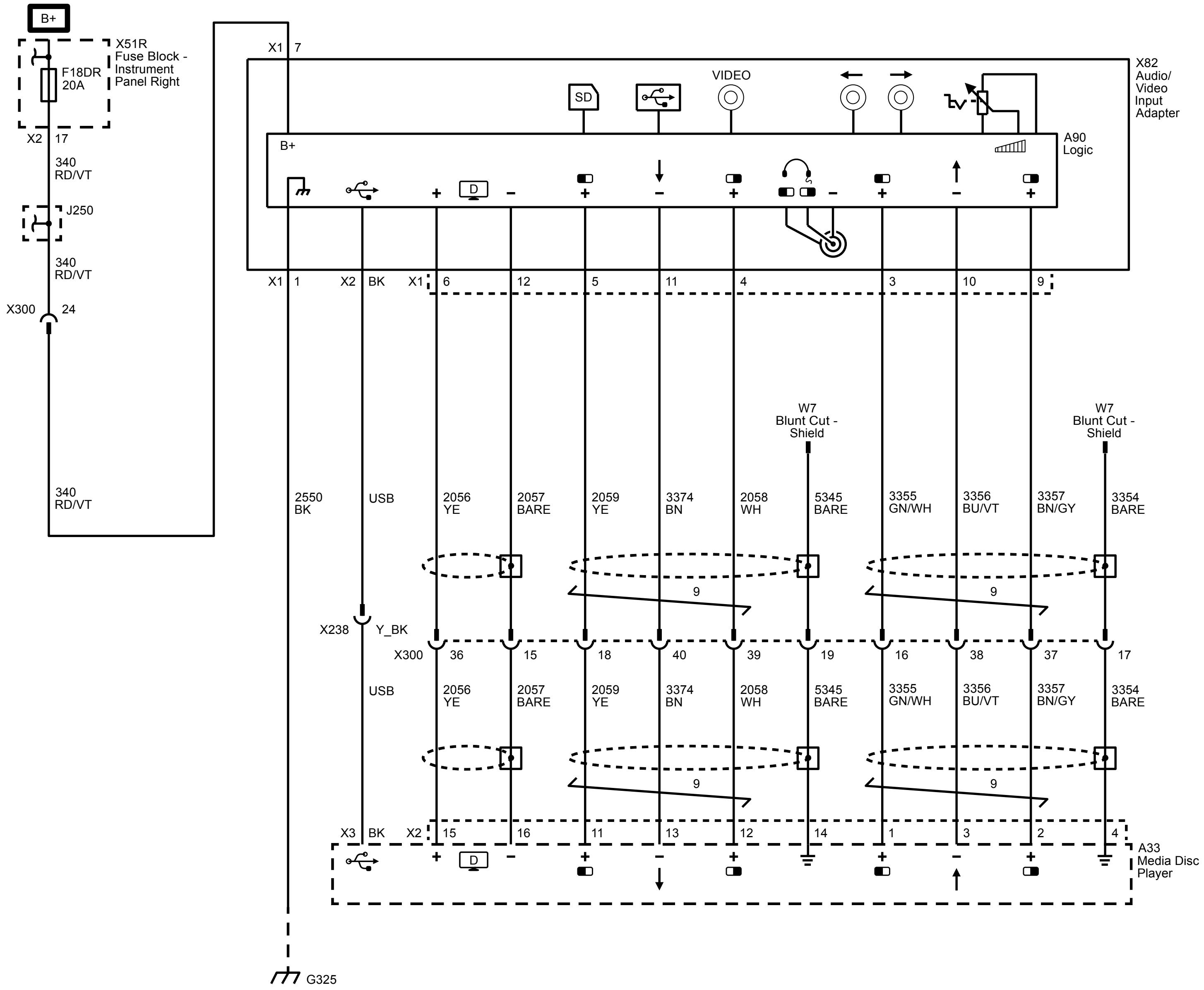

B24
Cellular
Phone
Microphone
655
RD
654
BK/BN
B
A
9
655
BU
654
BK/BN
X305
4
3
9
655
BU
654
BK/BN
X2
9
10
K73
Telematics
Communication
Interface
Control Module
GN
RD
10V
X1
3
2
6
11
X2
6
12
5
1
2
8
2516
YE/VT
2517
BN/WH
2515
GN/BK
2514
GN/WH
IO4/IO5/IO6
IO4/IO5/IO6
IO4/IO5/IO6
5149
GY/YE
5152
BK/GY
1792
BARE
658
YE
659
BK/YE
1782
BARE
X4
2
22
19
7
X61A
Junction
Block -
Instrument
Panel
X3
22
36
17
21
Radio/
Navigation
System
Schematics
9
W7
Blunt Cut -
Shield
2516
YE/BN
2517
BN/WH
2515
L-GN/BK
2514
L-GN/D-BU
6
7
4
3
A10
Inside
Rearview
Mirror
S51
Telematics
Button
Assembly
1.5K Ω
1.5K Ω
10K Ω
SOS
X1
20
19
A11
Radio
5
1050
BK
G210

Video Display - 2nd Row Power and Ground


B+
X51R
Fuse Block -
Instrument
Panel Right
F9DR
10A
X2
1
1540
RD/GN
X305
5
7066
GN/YE
10
A33
Media Disc
Player
X1
8
D
X4
WH
X5
GY
LVDS
X351
WH
K74
Human
Machine
Interface
Control
Module
X5
BU
LVDS
1540
RD/GN
7066
GN/YE
LVDS
X2
10
9
X1
BK
B+
P22A
Video
Display -
2nd Row
X2
BK
P17
Info
Display
Module
X2
8
2550
BK
G325

LOC
DESC

Video Inputs


B+
X51R
Fuse Block - Instrument Panel Right
F18DR
20A
X2 17
340
RD/VT
J250
340
RD/VT
X300 24
340
RD/VT
X1 7
X82
Audio/Video Input Adapter
SD
VIDEO
A90
Logic
B+
X1 1
X2 BK
X1 6
12
5
11
4
3
10
9
W7
Blunt Cut - Shield
W7
Blunt Cut - Shield
2550
BK
USB
2056
YE
2057
BARE
2059
YE
3374
BN
2058
WH
5345
BARE
3355
GN/WH
3356
BU/VT
3357
BN/GY
3354
BARE
9
9
X238
Y_BK
X300
36
15
18
40
39
19
16
38
37
17
USB
2056
YE
2057
BARE
2059
YE
3374
BN
2058
WH
5345
BARE
3355
GN/WH
3356
BU/VT
3357
BN/GY
3354
BARE
9
9
X3 BK
X2 15
16
11
13
12
14
1
3
2
4
D
D
A33
Media Disc Player
G325

Description and Operation

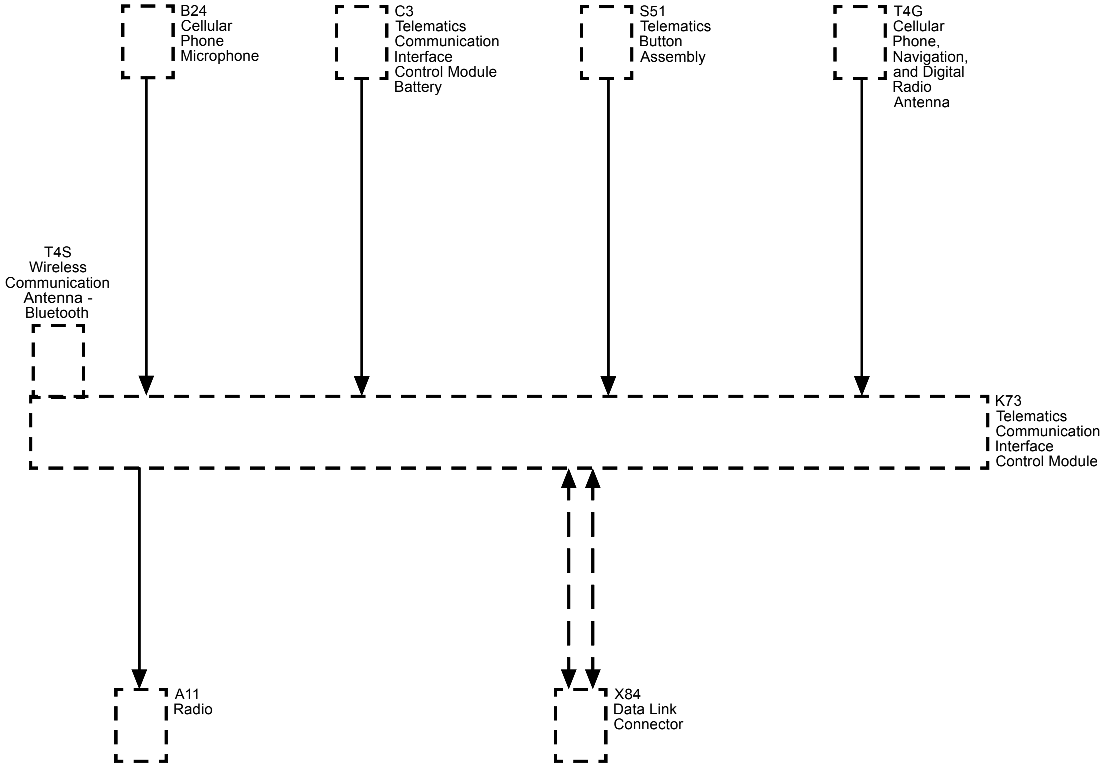
OnStar Description and Operation

This OnStar® system consists of the following components:

- Telematics communication interface control module
- OnStar® three button assembly
- Microphone
- Cellular antenna
- Navigation antenna
- Bluetooth® antenna (If equipped)
- Back up battery (If equipped)
- WiFi Hotspot (If equipped)
- TTY (Teletypewriter)

This system also interfaces with the factory installed vehicle audio system.

Onstar Block Diagram


B24
Cellular
Phone
Microphone
C3
Telematics
Communication
Interface
Control Module
Battery
S51
Telematics
Button
Assembly
T4G
Cellular
Phone,
Navigation,
and Digital
Radio
Antenna
T4S
Wireless
Communication
Antenna -
Bluetooth
K73
Telematics
Communication
Interface
Control Module
A11
Radio
X84
Data Link
Connector

Telematics Communication Interface Control Module

The OnStar Generation 10 system uses Global System for Mobile Communication (GSM) to communicate data and voice signals over the national cellular network. The module may also have the ability to act as a Wireless Local Area Network (WLAN) Wi-Fi hotspot similar to a home wireless router. The module houses an internal WLAN antenna enabling hotspot connectivity and streaming high speed media to the entertainment system. The module also may enable Teletypewriter (TTY) and be capable of Bluetooth communication utilizing an internal antenna. The module is capable of up to 4G LTE speeds and houses 2 technology systems, one to process Global Positioning System (GPS) data, and another for cellular information. The module sends and receives all cellular communications over two cellular antennas and cellular antenna coax cables.

The OnStar Gen 10 system has two antenna inputs, a primary cellular signal and a combined GPS/secondary cellular signal. The OnStar® system uses the Unitied States Global Positioning System (GPS) signals to provide location on demand. GPS is a space-based satellite navigation system that provides location and time information in all weather conditions, anywhere on or near Earth where there is an unobstructed line of sight to four or more GPS satellites.

The module also has the capability of activating certain features such as, the horn, remote engine starting, initiating door lock/unlock, or activating the exterior lamps using the serial data circuits. These functions can be commanded by the OnStar® Call Center per a customer request or mobile device app depending on vehicle and customer subscription.

Dedicated circuits are used to connect the telematics communication interface control module to a microphone, the button assembly, radio, and if equipped the Back Up Battery (BUB). The telematics communication interface control module communicates with the rest of the vehicle over the serial data bus.

Power is provided by a dedicated, fused B+ circuit. Ground is provided through the vehicle wiring harness attached to the module. The power mode state is determined by the telematics communication interface control module through serial data messaging.

OnStar® Three Button Assembly

- The OnStar® button assembly may be part of the rearview mirror, or a separate, stand alone unit. The button assembly is comprised of 3 buttons or 3 capacitive touch buttons and status LED's or an error indicator. The buttons are defined as follows:
  - The answer/end button, which is black with a white phone icon or a white driver figure seated with voice signals near its face, allows the user to answer and end calls or initiate speech recognition.
  - The blue OnStar® call center button, which displays the OnStar® logo, allows the user to connect to the OnStar® call center.
  - The emergency button, which displays white letters “SOS” with red background, sends a high priority emergency call to the OnStar® call center when pressed.

If the LED does not illuminate, this may indicate that the customers OnStar® subscription is not active or has expired. Push the blue OnStar button to connect to an advisor who can then verify the account status.

The telematics communication interface control module supplies 10 volts to the OnStar® button assembly on the keypad supply voltage circuit. When pressed, each button completes a circuit across a resistor allowing a specific voltage to be returned to the telematics communication interface control module on the keypad signal circuit. Depending upon the voltage range returned the telematics communication interface control module is able to identify which button has been pressed.

The OnStar® status LED or error indicator is located near the buttons. The LED is green when the system is ON and operating normally. When any indicator is illuminated and flashing, it is an indication that a call is in progress. When the LED is red, this indicates a system malfunction is present. In the event there is a system malfunction and the OnStar® system is still able to make a call, the LED will flash red during the call.

Each LED or error indicator is controlled by either the telematics communication interface control module over dedicated LED signal circuits or by low speed GM LAN serial data depending on the inside rearview mirror option. Ground for the LED is provided by the wiring harness attached to the button assembly.

Secondary OnStar® Controls

Some vehicles may have an additional button that when pushed can engage the OnStar® system. The button may be a symbol of a face with sound waves, or may say MUTE, or be a symbol of a radio speaker with a slash through it.

By engaging the OnStar® system with this feature, the user can interact with the system by use of voice commands. A complete list of these commands is supplied in the information provided to the customer. If the information is not available for reference, at any command prompt the user can say "HELP" and the telematics communication interface control module will return an audible list of available commands.

OnStar® Microphone

The cellular microphone can be part of the rearview mirror assembly, or a stand-alone unit in the headliner or roof console. In either case, the telematics communication interface control module supplies approximately 10V to the microphone on the cellular microphone signal circuit. The microphone modifies the 10V depending on the volume and voice being detected. A cellular microphone low reference circuit or a drain wire provides a ground for the microphone. The microphone signal circuits pass through the telematics communication interface control module to support entertainment voice recognition.

Cellular and GPS Antennas

The combination antenna will have any of the following antenna elements when equipped with OnStar:

- Primary cellular element
- Secondary cellular element
- GPS element
- Digital radio element
- AM/FM element

The Gen 10 OnStar® system uses 2 cellular antenna elements to send and receive cellular data, the primary cellular element and the secondary cellular element. The primary cellular signal is carried by a coax cable that connects the antenna directly to the telematics communication interface control module. Details of the secondary cellular signal are further described below.

The GPS antenna element is used to collect the signals of the orbiting GPS satellites. Within the antenna is housed a low noise amplifier that allows for a more broad and precise reception of this data. Also housed within the antenna is circuitry to combine the GPS signal and the secondary cellular signal. Without navigation, the combination GPS/secondary cellular signal is carried by a coax cable that connects directly to the telematics communication interface control module. The cable also provides a path for DC current for powering the antenna. With navigation, the combination GPS/secondary cellular signal is carried by a coax cable that connects to the navigation signal splitter. The splitter supplies the GPS signal to the navigation/entertainment system and the GPS/cellular signal to the telematics communication interface control module.

The digital radio element collects digital radio signals from two satellites and where necessary terrestrial repeaters. The digital radio signal is carried by a coax cable and connected to the digital radio receiver. Refer to Radio/Audio System Description and Operation for further details.

The radio signal is sent from a broadcast station and is then received by the AM/FM radio antenna element. The AM/FM radio signal is carried by a coax cable and is connected to the radio. Refer to Radio/Audio System Description and Operation for further details.

OnStar® RemoteLink

OnStar® RemoteLink is a mobile app to link mobile devices to a vehicle for limited diagnostics and feature controls. After downloading the app and registering the device, vehicle owners with an eligible vehicle can use their mobile devices to access real-time data from their vehicle and perform specific commands remotely.

All communication between the app and the vehicle is powered by OnStar's® advanced connected vehicle technology. An active OnStar® account as well as a valid OnStar® username and password are required to use the app. The remote commands must be enabled by logging into the user’s OnStar® account prior to using the app. Refer to the owners manual for available vehicle data and control features.

Compass Heading

The telematics communication interface module has a compass feature to calculate vehicle direction which is displayed via the instrument panel cluster or designated display. The compass heading is determined by dead reckoning until the GPS 3d fix is established. The dead reckoning is accomplished by using the yaw rate sensors and wheel ticks to determine heading changes from a GPS known heading. The GPS 3d fix heading is determined by the deferential of two locations. If “CAL” is displayed on the Instrument Panel Cluster or designated display refer to the owners manual for steps to calibrate the compass.

Bluetooth® (If Equipped)

Bluetooth® wireless technology is a short-range communications technology intended to replace the cables connecting portable and/or fixed devices while maintaining high levels of security. Only vehicles with steering wheel controls will have Bluetooth® functionality. In order to utilize the vehicle’s Bluetooth® system, a Bluetooth® equipped cellular phone is required.

The Bluetooth® antenna is internal to the telematics communication interface control module, radio or human machine interface module and is used to send and receive signals from a Bluetooth® enabled cellular phone. The available features and functions are determined by the software within the device being used and the telematics communication interface control module. The operating range of the signal from the vehicle is approximately 30 feet. Note that the operating range is dependent upon the cellular phone being used and battery level of the phone.

With Bluetooth® technology customers can experience hands-free calling as their Bluetooth® capable cellular phones are wirelessly connected to the vehicle. It will allow customers to place and receive calls using the steering wheel controls and voice recognition. The vehicle audio system will allow you to listen to your call through the vehicle speakers and adjust volume through steering wheel or radio controls.

Not all Bluetooth® cellular phones are guaranteed to work with the vehicle’s Bluetooth® system. Based on the cellular phone’s service provider and the manufacturer’s implementation of Bluetooth®, not all phones support all available Bluetooth® functionality. Bluetooth® enabled cellular phones will be tested for vehicle compatibility and a feature compatibility list will be provided via the GM Bluetooth® website: http://www.gm.com/vc/bluetooth/

Bluetooth® Features Supported

The following is a list of features supported by the Bluetooth® system. Note that not all devices will support all of the listed functions.

- Automatic reconnection – highest priority phone will automatically be connected to vehicle when vehicle ignition is on
- Hands-free dialing- via digits, redial, name tags (phone number saved to a nametag via voice recognition)
- Answering a call
- Ending a call
- Mute a Call
- Rejecting a call – ignore an incoming call
- Call Waiting
- Three-way Calling – initiated from hands-free system
- Send Number During a Call – this is used when calling a menu-driven phone system
- Transfer a Call – transfer call from vehicle to cellular phone and visa versa
- Voice Pass-Thru – allow access to the voice recognition commands on the cellular phone

Pairing a Bluetooth® Cellular Phone to the Vehicle

In order to use hands-free calling, the cellular phone must be paired to the vehicle. Up to five devices can be paired to the vehicle at one time, but only one can be connected at any given time. To pair a phone, the customer must know how to operate the Bluetooth® functionality of their phone. The pairing process must only be done one time for each phone, unless that phone’s information is deleted. The system will always generate a password and will provide that password if the device you are pairing does not support Secure Simple Pairing (SSP). If the device being paired does support SSP the system will not provide the password and automatically pair the device. For safety reasons, the pairing process is disabled while the vehicle is moving.

Once the Bluetooth® cellular phone has been paired with vehicle, it will automatically connect to the vehicle when the ignition is on and the device is on. When more than one paired phone is in the vehicle, the phone with the highest priority will be connected. If the cellular phone is in use while getting into the vehicle, the phone can be switched to hands-free mode with the press of a button. In addition, a call in progress can be transferred from the vehicle hands-free mode to the phone to continue the call as the customer exits the vehicle.

Complete pairing instructions are provided in the Vehicle Owners Manual.

Back-up Battery (If Equipped)

Important: Do not disconnect the main vehicle battery or remove the OnStar® fuse with the ignition key in any position other than OFF. Disconnecting power to the OnStar® module in any way while the ignition is ON or with retained accessory power activated may cause activation of the OnStar® Back-Up Battery. This action is per design as the back-up battery is designed to provide power to the telematics communication interface control module so an emergency notification call can be made after an event where the main battery is disabled. Once the Back-Up Battery is activated it will stay on until the power is restored back to the telematics communication interface control module. The telematics communication interface control module naturally chooses the main supply voltage as it’s default supply, but if the main supply is removed or lost for any reason the OnStar® module will use the Back-Up Battery as a power supply as long as the default supply can not be detected. The back-up battery is not rechargeable and once discharged below 9.5 volts the back-up battery must be replaced.

Certain OnStar® equipped vehicles may also be equipped with a back-up battery. The back-up battery is a non-rechargeable, lithium battery intended to provide an auxiliary power source for the telematics communication interface control module in the event where power from the main vehicle battery is lost.

The back-up battery is intended to have a limited life span of approximately 4 years and is designed to maintain an open circuit voltage between 16 V and 9 V throughout this period. This allows the battery to power the basic functions of the telematics communication interface control module for least one 200 second (5 minute) call at the end of the 4 year span, should the main vehicle battery be lost. In the case of a vehicle losing vehicle battery power, OnStar will switch over to the backup battery based on an internal algorithm. It will look for an air-bag deploy, or near-deploy, messages from the SDM. If there are no messages the OnStar module will stay wake for a few minutes longer and monitor the buttons in the mirror. If not pressed, the modules will power down and shut off completely.

The back-up battery is connected to the telematics communication interface control module through the back-up battery positive voltage circuit and back-up battery ground circuit and is protected from a short circuit by means of an internal fuse. In the event the back-up battery, battery positive voltage circuit is shorted to the back-up battery ground circuit or chassis ground, the fuse will open and render the back-up battery permanently inoperable. The status of the back-up battery and its associated wiring is monitored by the telematics communication interface control module.

WiFi Hotspot

The telematics communication interface control module acts as a Wireless Local Area Network (WLAN) WiFi hotspot router and uses direct 4G LTE connectivity to the internet. It has the ability to connect up to 7 devices at one time. A data plan is required and when purchased, a security default password is established. There are several ways to change the SSID or password, by placing a call to the OnStar Call Center, by using the Gen 10 mobile app or through the scan tool.

The system utilizes a secure autoconnect feature between the telematics communication interface control module and the radio/HMI. No user interaction is required, it is always available and ready to connect to a dedicated in car device. The ignition must be in Run, Accessory or RAP for WiFi to operate.

Audio System Interface

When the OnStar® requires audio output, a serial data message is sent to the audio system to mute all radio functions and transmit OnStar® originated audio. The OnStar® audio is transmitted to the vehicle audio system by a dedicated signal circuit and a low reference circuit.

The audio system will mute and an audible ring will be heard though the speakers if the vehicle receives a call with the radio ON.

On some vehicles, the HVAC blower speed may be reduced when the OnStar® system is active to aid in reducing interior noise. When the system is no longer active, the blower speed will return to its previous setting.

OnStar® Sleep Cycle

The OnStar® system uses a unique sleep cycle to allow the system to receive cellular calls while the ignition is in the OFF position and retained accessory power mode has ended. This cycle enables the telematics communication interface control module to perform remote functions, such as door unlock, as commanded over the air by the OnStar® Call Center, and to continue to maintain an acceptable level of battery electrical drain.

The OnStar® system uses 4 states of readiness, depending upon the type of cellular market the vehicle is in when the ignition is put into the OFF state:

- High power
- Low power
- Sleep
- Digital standby

The high power state is in effect whenever the ignition is in the ON or RUN position, or retained accessory power is enabled, and the OnStar® system is sending or receiving calls or when the system is performing a remote function.

The low power state is in effect when the OnStar® system is idle with the ignition in the ON or RUN position, or with retained accessory power enabled.

The sleep state is entered after the vehicle has been shut off and the retained accessory power has timed out while in an analog cellular area. At a predetermined time recorded within the telematics communication interface control module, the system re-enters the low power state to listen for a call from the OnStar® Call Center for 1 minute. After this interval, the system will again return to the sleep state for 9 minutes. If a call is sent during the 1 minute interval, the OnStar® system will receive the call and immediately go into the high power mode to perform any requested functions. If no call is received during the 1 minute interval, the system will go back into the sleep mode for another 9 minutes. This process will continue for up to 48 hours, after which the OnStar® system will turn off until the ignition is turned to the ON or RUN position.

The digital standby power state is entered after the vehicle has been shut off and the retained accessory power has timed out while in a digital cellular area. When in digital standby mode, the OnStar® module is able to perform all remote functions as commanded by an OnStar® advisor at any time, for a continuous 120 hours. After 120 hours, the OnStar® module will go into sleep mode until a wake up signal from the vehicle is seen by the telematics communication interface control module. If the OnStar module loses the digital cellular signal it will revert to analog mode and follow the standard sleep state (9 minutes OFF, 1 minute standby) based on the time of the GPS signals, this will continue until a digital cellular signal is again received.

If the OnStar® system loses battery power while the system is in a standby or sleep mode, the system will remain OFF until battery power is restored and the ignition is turned to the ON or RUN position.

Features

OnStar® Personal Calling

The hands free, OnStar® personal calling cellular phone feature is an additional feature of the OnStar® system. This feature is embedded within the telematics communication interface control module; however it must be activated by an OnStar® advisor. OnStar® personal calling operates similar to most hand held cellular phones in that the availability for its usage is based on minutes or units. The customer must have a current OnStar® subscription, as this feature cannot be utilized without it. To use OnStar® personal calling, the customer must also purchase units (minutes) as outlined in the owners guide provided with the OnStar® system. Units begin to deplete, 1 unit is equal to 1 minute, as the customer makes outbound phone calls, answers inbound phone calls, or while connected to the OnStar® virtual advisor. In addition, units may also have an expiration date, depending upon the type of units purchased.

Customers have the ability to store telephone numbers within the module, referenced by a nametag for the convenience of frequently dialed numbers. After storing a nametag, the user can dial this number by initiating the OnStar® personal calling feature, speaking the word "call," and repeating the nametag assigned.

Turn by Turn Navigation

Turn by Turn Navigation allows the driver to contact OnStar® to obtain directions for driving from a current location to a desired location. The Turn by Turn Navigation system stores your planned route and continually checks your position along that route, when you deviate from the planned route, the system will recognize this and prompt the driver with verbal prompts for how to proceed. The driver then responds verbally to direct the system to continue the current routing or to recalculate the route because of a missed turn.

Advisor Record Feature

The Advisor Record Feature allows the user to store any information given during a call with an OnStar® Advisor. Recording is activated by pressing the blue OnStar button during a call; pressing the button a second time stops the recording. The stored information can be played back by pressing the phone button on the three button assembly and using the voice command “Advisor Playback”.

Teletypewriter (TTY) Users

OnStar has the ability to communicate to deaf, hard-of-hearing, or speech-impaired customers while in the vehicle. The available dealer-installed TTY system can provide in-vehicle access to all of the OnStar services, except Virtual Advisor and OnStar Turn-by-Turn Navigation.

Deactivated OnStar® Accounts

In the event a customer has not renewed their OnStar® account after expiration or the account was never activated, OnStar® will make a discrete cellular call to the vehicle to deactivate the OnStar® system. Before taking this action, customers are notified that the OnStar® system in their vehicle will be deactivated unless they elect to renew the account. After the OnStar® account has been deactivated, customers will experience the following:

- The OnStar® status LED will not illuminate.
- The OnStar® system will NOT attempt to connect to the OnStar® Call Center in the event of a collision or if the vehicle's front air bags deploy for any other reason.
- An emergency button press will play a demo message indicating the service has been deactivated.
- An OnStar® Call Center button press will connect the customer with a dedicated sales team who can sell an OnStar® subscription and reactivate the vehicle. Depending on the type of OnStar® hardware in the vehicle,

the customer may first hear a demonstration message stating there is no current OnStar® subscription for the vehicle, and directing the customer what to do to activate services.

- OnStar® personal calling will not be available, as this feature requires the customer to have a current OnStar® account. Attempts to use this feature may result in cellular connection failure messages and the inability to connect to the number dialed.

Certain vehicles that have never had an active OnStar® account, or that have been deactivated, may be unable to establish a connection with the OnStar® Call Center. When normal published diagnostic procedures do not indicate a possible cause for the no connect concern, the vehicle may have been deactivated. For deactivated vehicles, a no connect response should be considered normal operation. Further diagnosis and subsequent repair is only necessary should the customer elect to become an active OnStar® subscriber or renew the account subscription.

OnStar® Cellular, GPS, and Diagnostic Limitations

The proper operation of the OnStar® System is dependent on several elements outside the components integrated into the vehicle. These include the National Cellular Network Infrastructure, the cellular telephone carriers within the network, and the GPS.

The cellular operation of the OnStar® system may be inhibited by factors such as the users range from an analog or digital cellular tower, the state of the cellular carrier’s equipment, and the location where the call is placed. Making an OnStar® key press in areas that lack sufficient cellular coverage or have a temporary equipment failure will result in either the inability of a call to complete with a data transfer or the complete inability to connect to the OnStar® Call Center. The OnStar® system may also experience connection issues if the identification numbers for the module, station identification number, electronic serial number or manufacturers electronic ID, are not recognized by the cellular carriers local signal receiving towers.

The satellites that orbit earth providing the OnStar system with GPS data have almost no failures associated with them. In the event of a no GPS concern, the failure will likely lie with the inability of the system to gain GPS signals because of its location, i.e. in a parking structure, hardware failure, or being mistaken with an OnStar® call which has reached the Call Center without vehicle data.

During diagnostic testing of the OnStar® system, the technician should ensure the vehicle is located in an area that has a clear unobstructed view of the open sky, and preferably, an area where analog or digital cellular calls have been successfully placed. These areas can be found by successfully making an OnStar® keypress in a known good OnStar® equipped vehicle and confirming success with the OnStar® Call Center advisor. Such places can be used as a permanent reference for future OnStar® testing.

Mobile Identification Number and Mobile Directory Number

The telematics communication interface control module utilizes 2 numbers for cellular device identification, call routing and connection, a mobile identification number and a mobile directory number. The mobile identification number represents the number used by the cellular carrier for call routing purposes while the mobile directory number represents the number dialed to reach the cellular device.

Operation of the OnStar® Speech Recognition Systems

OnStar® users communicate with 2 speech recognition systems. Speech recognition allows the user to speak to one computer in the vehicle, and one reached over a phone line. The computer tries to understand the users command, and responds by speaking back, or by taking the appropriate action, e.g. dialing the phone.

- Personal Calling uses a speech recognition system that resides in the vehicle. When the user presses the phone button, the system states, Ready, and listens for the user's command. The user can speak commands to control the hands-free phone.
- Virtual advisor is a remote speech recognition system that the caller can access by making a phone call. The user connects to virtual advisor by requesting it during personal calling use. The user is then transferred to the virtual advisor server and talks to it via a cellular connection.

The OnStar® speech recognition systems use speech technology that is designed to understand a wide range of American English speakers. Although there is no one right way to speak English, the system will work best when users try to modify their pronunciation should they encounter difficulty. Users who do not obtain good results are advised to try the tips and workarounds found in the Infotainment System Manual or the Owners Manual.

Radio/Audio System Description and Operation (IO3)

The entertainment system on this vehicle may have several different configurations available to it. To determine the specific configuration of the vehicle, please see the Service Parts ID Label, and refer to CELL Link Error - Link target cell (cell ID 47866) is invalid for this publication..

Each item in the list below represents topics covered in detail below.

- Data Communications
- Remote Radio Receiver
- Media Disc Player
- Audio Amplifier (If equipped)
- Speaker Operation
- Infotainment Controls and Display
- Antenna System
- Radio Reception
- Theft Deterrent
- Auxiliary Audio Input Jack
- USB Port and SD Card Reader
- Valet Mode
- OnStar ®
- Steering Wheel Controls (If equipped)
- Auto Volume Control

Data Communications

The infotainment system communicates with other devices on multiple serial data networks during operation. The infotainment system utilizes the Media Oriented Systems Transport (MOST) bus, Local Interconnect Network (LIN) and GMLAN to establish communications. For additional information refer to Data Link Communications Description and Operation

Remote Radio Receiver

The radio is the MOST BUS master. The radio also communicates with other components and systems within the vehicle via GMLAN.

The remote radio receiver is responsible for receiving all broadcast audio bands. Broadcast signals from AM, FM, and XM bands are transmitted to the radio via the vehicle antenna systems.

Radio Power

The radio receives battery power and ground from the vehicle harness.

The radio does not use a discrete ignition feed circuit for power moding. The power mode master provides the system power mode to the radio via serial data messages. The power mode master determines the system power mode by processing power mode information from ignition switch inputs. Serial data power modes supported by the radio are OFF, ACCESSORY, RUN, and CRANK REQUEST.

Radio Audio Outputs

When not equipped with an amplifier, the radio outputs all audio signals to the speakers via the vehicle wiring harness.

When equipped with an amplifier, the radio outputs all audio signals digitally over the MOST bus.

Media Disc Player

The media disc player is responsible for playing optical media for the infotainment system.

The media disc player receives control information and outputs digital audio over the MOST bus.

The media disc player receives battery power and ground from the vehicle harness.

Audio Amplifier (If equipped)

Amplifier Interface

A fused battery voltage circuit provides the main amplifier power. The audio amplifier is a participant on the MOST network. The audio amplifier receives audio signals and control information from the MOST bus. The audio amplifier also communicates with other components and systems within the vehicle via GMLAN.

Amplifier Operation

The purpose of the amplifier is to increase the power of a voltage or current signal. The output signal of an amplifier may consist of the same frequencies as the input signal or it may consist of only a portion of the frequencies as in the case of a subwoofer or midrange speaker. The audio amplifier amplifies the signal and sends it to the appropriate speakers.

Each of the audio output channel circuits (+) and (−), at the audio amplifier have a DC bias voltage that is approximately one half of the battery voltage. When using a DMM, each of the audio output channel circuits will measure approximately 6.5V DC. The audio being played on the system is produced by a varying AC voltage that is centered around the DC bias voltage on the same circuit. The AC voltage is what causes the speaker cone to move and produce sound. Both the DC bias voltage and the AC voltage signals are needed for the audio system to properly produce sound.

The audio amplifier is also responsible for operation of active noise cancellation. Refer to CELL Link Error - Link target cell (cell ID 194567) is invalid for this publication. for more information.

Speaker Operation

Speakers turn electrical energy into mechanical energy to move air, using a permanent magnet and an electromagnet. The electromagnet is energized when the radio or amplifier (if equipped) delivers current to the voice coil on the speaker. The voice coil will form a north and south pole that will cause the voice coil and the speaker cone to move in relation to the permanent magnet. The current delivered to the speaker is rapidly changing alternating current (A/C). This causes the speaker cone to move in two directions producing sound.

Infotainment Controls and Display

The infotainment display and controls are a separate component from the radio, combined into an assembly. The assembly contains the control knobs and buttons for all audio and HVAC functions and the information display. The assembly is supplied battery voltage and ground from the vehicle harness.

The radio communicates with the assembly via a LIN serial data circuit. Messages communicated include the following:

- Wake-up/power state messages
- Diagnostic information
- Button presses/knob rotations
- Commands for the state of indicators
- Back-lighting dimming level

The radio sends the display digital video data for on-screen display through a dedicated video cable.

HVAC data for controls and status indicators is communicated between the HVAC controls and the HVAC control module with a separate LIN serial data circuit. HVAC status screen information from the HVAC control module is transmitted to the radio on the GMLAN serial data circuit.

Antenna System

Mast Antenna

The mast antenna is responsible for AM and FM radio reception. The antenna is attached to a base. The coaxial cable is connected to the base, and this cable is connected to the radio.

Multi-Band Antenna

The multi-band antenna is located on the roof of the vehicle. This type of antenna may be used with the AM/FM radio, but is primarily for cellular, GPS signals, and XM signals, if the vehicle has these features. Keep this antenna clear of snow and ice build up for clear reception. If the vehicle has a sunroof, the performance of the system may be affected if the sunroof is open. Loading items onto the roof of the vehicle can interfere with the performance of the system, ensure the multi-band antenna is not obstructed.

Radio Reception

AM/FM Radio Signal

The radio signal is sent from a broadcast station and is then received by an antenna. The strength of the signal received depends on the following:

- The power output (wattage) of the broadcasting station
- The location of the vehicle (or receiver) relative to the broadcast tower.
- Height of the broadcast antenna
- Height of the receiving antenna
- Obstacles between the tower and the receiver
- Atmospheric conditions
- What band (AM or FM) the station is broadcasting
- Type of antenna and the ground plane

Digital Radio Receiver (If equipped)

The XM satellite receiver is integrated into the radio. XM satellite radio provides digital radio reception. The XM signal is broadcast from two satellites and, where necessary, terrestrial repeaters. The high power satellites allow the antenna to receive the XM signal even when foliage and other partial obstructions block the antennas view of the satellite. Terrestrial repeaters are used in dense urban areas. These repeaters will receive the satellite signal and re-broadcast them at much higher power levels in order to ensure reception in areas with densely packed tall buildings. A service fee is required in order to receive the XM service.

Radio Data System (RDS)

The RDS feature is available only on FM stations that broadcast RDS information. This system relies upon receiving specific information from these stations and only works when the information is available. While the radio is tuned to an FM-RDS station, the station name or call letters display. RDS data is carried in what is known as a "subcarrier". A subcarrier is a frequency that the FM broadcaster is authorized to use to send data that is not audible in the main audio program.

RDS functions will only work with FM broadcast stations that are broadcasting RDS data. Not all FM Broadcast stations broadcast RDS data or offer all of the RDS services.

The information displayed is dependent upon the information broadcast by the particular station. The information may vary greatly between stations. RDS functions may not work properly when reception is weak, reception is of poor quality, or RDS is not implemented properly by the FM Broadcaster. In some cases, a radio station broadcasting incorrect information may cause the RDS features of the radio to appear to work improperly.

With RDS, the radio can do the following:

- Display text information such as: station identification, type of programming, and general information (artist and song title, station messages, call in phone numbers, etc.).
- Seek to stations broadcasting the selected type of programming
- Receive announcements concerning local and national emergencies
- Receive alert warnings of local or national emergencies. When an alert announcement comes on the current radio station, ALERT! displays. You will hear the announcement, even if the volume is low or a CD is playing. If

a CD is playing, play stops during the announcement. Alert announcements cannot be turned off. ALERT! is not affected by tests of the emergency broadcast system. This feature is not supported by all RDS stations.

Theft Deterrent

The radio theft deterrent system is intended to disable or limit radio functionality if incorrect vehicle information is received by the radio. The radio disables functionality if the VIN information received by the radio does not match the VIN information that has been learned by the radio. The radio receives this information via serial data. A possible cause of incorrect VIN info could be the radio was originally installed in another vehicle.

The radio has the following theft operating modes as part of the theft deterrent system:

- Normal Mode: The radio has learned a correct VIN sequence and the VIN information received via serial data matches the learned VIN sequence. In this mode the radio has full functionality.
- No VIN Mode: The radio has not received or learned a correct VIN sequence. In this mode the radio has limited functionality.
- Theft Detected Mode: The radio has learned a correct VIN sequence and the VIN information received via serial data does NOT match the learned VIN sequence. In this mode the radio may be disabled or have limited functionality. The radio display will indicate that theft protection is active.

Auxiliary Audio Input Jack (If equipped)

The infotainment system may have a 3.5mm (1/8 in.) auxiliary audio input jack located in the center console. The auxiliary audio input jack interfaces directly with the radio. When a portable audio playback device is connected to the auxiliary jack, an internal switch detects the connection and the radio will switch to AUX as the audio source. Audio signals from the device are sent to the radio from the auxiliary jack via the left, right, and common audio signal circuits.

- When a device is first connected to the 3.5mm (1/8 in.) input jack the infotainment system automatically switches to that device. If an auxiliary device has already been connected, press the AUX or CD/AUX button to select the device.
- Playback of an audio device that is connected to the 3.5mm jack can only be controlled using the controls on the device.
- The volume control on the device may need to be adjusted to ensure sufficient playback volume through the infotainment system.

USB Port and SD Card Reader

The USB port and the card reader slot interface with a hub device, internal to the auxiliary jack, USB, and memory card receptacle assembly. The auxiliary jack, USB, and memory card receptacle assembly receives fused battery voltage and ground from the harness to power the internal hub device as well as providing additional amperage to power USB devices.

The internal hub device interfaces directly with the radio via a standard USB cable. A Mini type USB connector is used to connect the cable at the USB port and at the radio and at the auxiliary jack, USB, and memory card receptacle. Standard USB male to female connections are typically used for connecting USB cables together where an in-line connection is required. An in-line cable connection is typically found between the console and I/P harness.

USB Port

The USB port allows connectivity to the infotainment system from portable media players or a USB storage device (memory stick/ flash drive). When a device is connected to the USB port, the system detects the device and switches to USB as the audio source. Once connected, the device can be controlled from the radio controls.

Not all portable media player devices or file types are compatible. Connection to USB HUB devices is not supported.

Refer to the owner’s manual for information on USB devices, control, and operation.

SD Card Reader

The infotainment system uses the SD card reader as a mass storage device, similar to a USB storage device.

Refer to the owners manual for information on media types supported via the SD card reader.

Valet Mode

Valet Mode is a customer enabled feature of the infotainment system, found in the settings menu, if equipped. The customer creates and inputs a four digit code using the infotainment controls. Confirming the code and selecting LOCK will lock the infotainment system, steering wheel controls and other vehicle features, dependant on vehicle equipment. The vehicle will remain in valet mode until the same four digit code is reentered.

In the event that the four digit code is forgotten, the scan tool can be used to clear the Valet Mode Code.

OnStar ® (If equipped)

When OnStar is activated, a serial data message is sent to the radio that activates a software program. When the software begins its process, the fade goes to the front, Bass and Treble are set to the mid range, the outputs are mono, and the audio source is OnStar. OnStar takes priority over any other audio source. All of these actions are preset values stored in the radio.

For additional OnStar information, refer to OnStar Description and Operation.

Steering Wheel Controls (If equipped)

Some audio functions are available using the steering wheel controls. The steering wheel controls duplicate the function of the primary controls available on the radio.

For additional information on steering wheel controls, refer to Steering Wheel Controls Description and Operation.

Auto Volume Control

With auto volume control, the audio system will adjust automatically to make up for road and wind noise as you drive, by increasing the volume as vehicle speed increases. To use auto volume control, set the volume at the desired level, and then select either Low, Medium, or High. To turn auto volume control off, select the Off screen button.

Radio/Audio System Description and Operation (IO4/IO5/IO6)

The entertainment system on this vehicle may have several different configurations available to it. To determine the specific configuration of the vehicle, please see the Service Parts ID Label, and refer to CELL Link Error - Link target cell (cell ID 47866) is invalid for this publication..

Each item in the list below represents topics covered in detail below.

- Data Communications
- Remote Radio Receiver
- Human Machine Interface Module
- Media Disc Player
- Audio Amplifier (If equipped)
- Speaker Operation
- Infotainment Controls and Display
- Antenna System
- Radio Reception
- Theft Deterrent
- Bluetooth ® (if equipped)
- Applications (if equipped)
- Auxiliary Audio Input Jack
- USB Port and SD Card Reader
- Navigation System Components and Features (if equipped)
- Valet Mode
- OnStar ®
- Steering Wheel Controls (If equipped)
- Auto Volume Control

Data Communications

The infotainment system communicates with other devices on multiple serial data networks during operation. The infotainment system utilizes the Media Oriented Systems Transport (MOST) bus, Local Interconnect Network (LIN) and GMLAN to establish communications. For additional information refer to Data Link Communications Description and Operation

Remote Radio Receiver

The radio is the MOST BUS master. The radio also communicates with other components and systems within the vehicle via GMLAN.

The remote radio receiver is responsible for receiving all broadcast audio bands. Broadcast signals from AM, FM, and XM bands are transmitted to the radio via the vehicle antenna systems.

Radio Power

The radio receives battery power and ground from the vehicle harness.

The radio does not use a discrete ignition feed circuit for power moding. The power mode master provides the system power mode to the radio via serial data messages. The power mode master determines the system power mode by processing power mode information from ignition switch inputs. Serial data power modes supported by the radio are OFF, ACCESSORY, RUN, and CRANK REQUEST.

Radio Audio Outputs

When not equipped with an amplifier, the radio outputs all audio signals to the speakers via the vehicle wiring harness.

When equipped with an amplifier, the radio outputs all audio signals digitally over the MOST bus.

Human Machine Interface Module

The human machine interface module is responsible for the following: Video for the infotainment display, Bluetooth ®, USB, memory card reader, and speech recognition functions.

The human machine interface module communicates with the info display module via the LIN bus for control information, touch communications and dimming level. Digital video data is sent to the display through a dedicated video cable.

Media Disc Player

The media disc player is responsible for playing optical media for the infotainment system.

The media disc player receives control information and outputs digital audio over the MOST bus.

The media disc player receives battery power and ground from the vehicle harness.

Audio Amplifier (If equipped)

Amplifier Interface

The amplifier receives battery power and ground from the vehicle harness. . The audio amplifier is a participant on the MOST network. The audio amplifier receives audio signals and control information from the MOST bus.

Amplifier Operation

The purpose of the amplifier is to increase the power of a voltage or current signal. The output signal of an amplifier may consist of the same frequencies as the input signal or it may consist of only a portion of the frequencies as in the case of a subwoofer or midrange speaker. The audio amplifier amplifies the signal and sends it to the appropriate speakers.

Each of the audio output channel circuits (+) and (−), at the audio amplifier have a DC bias voltage that is approximately one half of the battery voltage. When using a DMM, each of the audio output channel circuits will measure approximately 6.5V DC. The audio being played on the system is produced by a varying AC voltage that is centered around the DC bias voltage on the same circuit. The AC voltage is what causes the speaker cone to move and produce sound. Both the DC bias voltage and the AC voltage signals are needed for the audio system to properly produce sound.

The audio amplifier is also responsible for operation of active noise cancellation. Refer to CELL Link Error - Link target cell (cell ID 194567) is invalid for this publication. for more information.

Speaker Operation

Speakers turn electrical energy into mechanical energy to move air, using a permanent magnet and an electromagnet. The electromagnet is energized when the radio or amplifier (if equipped) delivers current to the voice coil on the speaker. The voice coil will form a north and south pole that will cause the voice coil and the speaker cone to move in relation to the permanent magnet. The current delivered to the speaker is rapidly changing alternating current (A/C). This causes the speaker cone to move in two directions producing sound.

Infotainment Controls and Display

The infotainment display and controls are a separate component from the radio, combined into an assembly. The assembly contains the control knobs and buttons for all audio and HVAC functions and the information display. The assembly is supplied battery voltage and ground from the vehicle harness.

Control information, touch communications and dimming level for the display are communicated via a LIN serial data circuit to the human machine interface module.

The human machine interface module sends the display digital video data for on-screen display through a dedicated video cable.

The information display provides a feedback on the touch screen and certain controls. Buttons pulse when pressed to affirm that the command is being carried out,

When not actively in use, the screen reverts to minimal images. Proximity Sensing awakens the LCD screen when a hand approaches it.

The controls communicate via a LIN serial data circuit with the remote radio receiver . Messages communicated include the following:

- Wake-up/power state messages
- Diagnostic information
- Button presses/knob rotations
- Commands for the state of indicators
- Back-lighting dimming level

HVAC data for controls and status indicators is communicated between the HVAC controls and the HVAC control module with a separate LIN serial data circuit. HVAC status screen information from the HVAC control module is transmitted to the radio on the GMLAN serial data circuit. The radio communicates the desired screen information to the human machine interface module to be sent to the information display using the video data circuits.

Antenna System

Mast Antenna

The mast antenna is responsible for AM and FM radio reception. The antenna is attached to a base. The coaxial cable is connected to the base, and this cable is connected to the radio.

Multi-Band Antenna

The multi-band antenna is located on the roof of the vehicle. This type of antenna may be used with the AM/FM radio, but is primarily for cellular, GPS signals, and XM signals, if the vehicle has these features. Keep this antenna clear of snow and ice build up for clear reception. If the vehicle has a sunroof, the performance of the system may be affected if the sunroof is open. Loading items onto the roof of the vehicle can interfere with the performance of the system, ensure the multi-band antenna is not obstructed.

Radio Reception

AM/FM Radio Signal

The radio signal is sent from a broadcast station and is then received by an antenna. The strength of the signal received depends on the following:

- The power output (wattage) of the broadcasting station
- The location of the vehicle (or receiver) relative to the broadcast tower.
- Height of the broadcast antenna
- Height of the receiving antenna
- Obstacles between the tower and the receiver
- Atmospheric conditions
- What band (AM or FM) the station is broadcasting
- Type of antenna and the ground plane

Digital Radio Receiver (If equipped)

The XM satellite receiver is integrated into the radio. XM satellite radio provides digital radio reception. The XM signal is broadcast from two satellites and, where necessary, terrestrial repeaters. The high power satellites allow the antenna to receive the XM signal even when foliage and other partial obstructions block the antennas view of the satellite. Terrestrial repeaters are used in dense urban areas. These repeaters will receive the satellite signal and re-broadcast them at much higher power levels in order to ensure reception in areas with densely packed tall buildings. A service fee is required in order to receive the XM service.

Radio Data System (RDS)

The RDS feature is available only on FM stations that broadcast RDS information. This system relies upon receiving specific information from these stations and only works when the information is available. While the radio is tuned to an FM-RDS station, the station name or call letters display. RDS data is carried in what is known as a "subcarrier". A subcarrier is a frequency that the FM broadcaster is authorized to use to send data that is not audible in the main audio program.

RDS functions will only work with FM broadcast stations that are broadcasting RDS data. Not all FM Broadcast stations broadcast RDS data or offer all of the RDS services.

The information displayed is dependent upon the information broadcast by the particular station. The information may vary greatly between stations. RDS functions may not work properly when reception is weak, reception is of poor quality, or RDS is not implemented properly by the FM Broadcaster. In some cases, a radio station broadcasting incorrect information may cause the RDS features of the radio to appear to work improperly.

With RDS, the radio can do the following:

- Display text information such as: station identification, type of programming, and general information (artist and song title, station messages, call in phone numbers, etc.).
- Seek to stations broadcasting the selected type of programming
- Receive announcements concerning local and national emergencies
- Receive alert warnings of local or national emergencies. When an alert announcement comes on the current radio station, ALERT! displays. You will hear the announcement, even if the volume is low or a CD is playing. If a CD is playing, play stops during the announcement. Alert announcements cannot be turned off. ALERT! is not affected by tests of the emergency broadcast system. This feature is not supported by all RDS stations.

Theft Deterrent

The radio theft deterrent system is intended to disable or limit radio functionality if incorrect vehicle information is received by the radio. The radio disables functionality if the VIN information received by the radio does not match the VIN information that has been learned by the radio. The radio receives this information via serial data. A possible cause of incorrect VIN info could be the radio was originally installed in another vehicle.

The radio has the following theft operating modes as part of the theft deterrent system:

- Normal Mode: The radio has learned a correct VIN sequence and the VIN information received via serial data matches the learned VIN sequence. In this mode the radio has full functionality.
- No VIN Mode: The radio has not received or learned a correct VIN sequence. In this mode the radio has limited functionality.
- Theft Detected Mode: The radio has learned a correct VIN sequence and the VIN information received via serial data does NOT match the learned VIN sequence. In this mode the radio may be disabled or have limited functionality. The radio display will indicate that theft protection is active.

Bluetooth ® (If equipped)

Bluetooth ® wireless technology is a short-range communications technology intended to replace the cables connecting portable and/or fixed devices while maintaining high levels of security. The operating range of the signal is approximately 30 feet.

The available features and functions are determined by the type of device and the software within the devices being used. For a feature or function to operate, it must be supported in both devices.

The first connection between devices is established through a process called pairing. In order to pair two devices, a password (passkey) has to be exchanged between the two devices. One device will generate the password, the other device accepts the password to complete the process. Once the devices are paired, future connections between the devices will occur automatically when the devices are on and within range of each other.

The Bluetooth ® hardware is internal to the human machine interface module. The human machine interface module supports streaming of data (music, voice, information) from cellular phones and other mobile devices that support those features. The human machine interface module is also capable of interfacing with cellular phones for hands-free features.

- The device must be paired to the system to use the available Bluetooth ® feature(s). The pairing process must only be performed once for each device, unless that device's information is deleted.
- Up to five devices can be paired, but only one can be connected at any given time.
- Streaming Audio allows playing music from the mobile device wirelessly. Music stored on the mobile device can be viewed and controlled from the display.
- To stream audio from a mobile device, the device must be unlocked, and any additional applications should be closed.

Refer to the vehicle owners manual, supplements, and the device manufacturers information for pairing instructions.

Applications (If equipped)

When the system is equipped with Bluetooth ®, the system is capable of using applications, commonly referred to as apps.

The term application refers to any piece of software that works on a system (hardware) that is being operated by it's own software. Applications are typically small software programs which uses the hardware to perform a specific task, as opposed to operating the entire system.

- For an application to be used, it must be installed on both the vehicle infotainment system and a compatible mobile device.
- The device must be connected to the system. this may be done wirelessly via Bluetooth ®, or via the vehicle USB port. Refer to the device manufacturers information for the proper connection method.
- When the device is connected, the vehicle infotainment system is used to remotely access and control the application on the mobile device.
- The application must work correctly on the device to work with the vehicle infotainment system.
- The user may be required to log-in to the application on the mobile device before using the application from the vehicle controls.
- Using applications will use the device's data plan.
- The device must be unlocked, and any additional applications should be closed.

Refer to the owner's manual and supplements for information on mobile devices, control, and operation.

Auxiliary Audio Input Jack (If equipped)

The infotainment system may have a 3.5mm (1/8 in.) auxiliary audio input jack located in the center console. The auxiliary audio input jack interfaces directly with the radio. When a portable audio playback device is connected to the auxiliary jack, an internal switch detects the connection and the radio will switch to AUX as the audio source. Audio signals from the device are sent to the radio from the auxiliary jack via the left, right, and common audio signal circuits.

- When a device is first connected to the 3.5mm (1/8 in.) input jack the infotainment system automatically switches to that device. If an auxiliary device has already been connected, press the AUX or CD/AUX button to select the device.

- Playback of an audio device that is connected to the 3.5mm jack can only be controlled using the controls on the device.
- The volume control on the device may need to be adjusted to ensure sufficient playback volume through the infotainment system.

USB Port and SD Card Reader

The USB port and the card reader slot interface with a hub device, internal to the auxiliary jack, USB, and memory card receptacle assembly. The auxiliary jack, USB, and memory card receptacle assembly receives fused battery voltage and ground from the harness to power the internal hub device as well as providing additional amperage to power USB devices.

The internal hub device interfaces directly with the human machine interface module via a standard USB cable. A Mini type USB connector is used to connect the cable at the USB port and at the human machine interface module and at the auxiliary jack, USB, and memory card receptacle. Standard USB male to female connections are typically used for connecting USB cables together where an in-line connection is required. An in-line cable connection is typically found between the console and I/P harness.

USB Port

The USB port allows connectivity to the infotainment system from portable media players or a USB storage device (memory stick/ flash drive). When a device is connected to the USB port, the system detects the device and switches to USB as the audio source. Once connected, the device can be controlled from the radio controls.

Not all portable media player devices or file types are compatible. Connection to USB HUB devices is not supported.

Refer to the owner’s manual for information on USB devices, control, and operation.

SD Card Reader

The infotainment system uses the SD card reader as a mass storage device, similar to a USB storage device.

Refer to the owners manual for information on media types supported via the SD card reader.

Navigation System Components and Features (if equipped)

The human machine interface module provides navigation functionality, if equipped. The human machine interface module provides the following:

- Connection to the global positioning system (GPS) antenna, which provides the vehicle position information.
- Map data for navigation and map route guidance, stored in the human machine interface modules internal memory.
- Route guidance with verbal prompts to the operator.
- Traffic and weather information for display on the navigation system map (with active subscription, where available).

Global Positioning System (GPS) Antenna

The global positioning system (GPS) antenna is part of the multi-band antenna located on the roof of the vehicle. The GPS antenna is used to collect the signals of the orbiting GPS satellites. Within the antenna is housed a low noise amplifier that allows for a more broad and precise reception of this data. The GPS antenna amplifier is powered through the coaxial cable.

The antenna is connected to the human machine interface module directly, or through a signal splitter. The signal splitter is a component for dividing the navigation signal into two paths without any transmission loss. This allows the use of a single GPS antenna to provide a signal to both the human machine interface module and the telematics communication interface module.

Route Guidance

The map will display the route to the selected destination. Voice prompts alert the operator of upcoming events (turns) and arrivals at the destination. The navigation system will automatically recalculate if the route is not followed. The human machine interface module uses data received from the global positioning system (GPS) satellites, the vehicle speed signal. and serial data information to accurately display the current position of the vehicle.

Points of Interest

The map database provides point of interest information. Points of interests are locations that are frequently visited. Points of interest can be can be displayed on the map or set as a destination. The following are some of the available Points of interests:

- Gas Station
- Restaurant
- College
- Police Station

Valet Mode

Valet Mode is a customer enabled feature of the infotainment system, found in the settings menu, if equipped. The customer creates and inputs a four digit code using the infotainment controls. Confirming the code and selecting LOCK will lock the infotainment system, steering wheel controls and other vehicle features, dependant on vehicle equipment. The vehicle will remain in valet mode until the same four digit code is reentered.

In the event that the four digit code is forgotten, the scan tool can be used to clear the Valet Mode Code.

OnStar ® (If equipped)

When OnStar is activated, a serial data message is sent to the radio that activates a software program. When the software begins its process, the fade goes to the front, Bass and Treble are set to the mid range, the outputs are mono, and the audio source is OnStar. OnStar takes priority over any other audio source. All of these actions are preset values stored in the radio.

For additional OnStar information, refer to OnStar Description and Operation.

Steering Wheel Controls (If equipped)

Some audio functions are available using the steering wheel controls. The steering wheel controls duplicate the function of the primary controls available on the radio.

For additional information on steering wheel controls, refer to Steering Wheel Controls Description and Operation.

Auto Volume Control

With auto volume control, the audio system will adjust automatically to make up for road and wind noise as you drive, by increasing the volume as vehicle speed increases. To use auto volume control, set the volume at the desired level, and then select either Low, Medium, or High. To turn auto volume control off, select the Off screen button.

Radio/Audio System Description and Operation (IOB)

The entertainment system on this vehicle may have several different configurations available to it. To determine the specific configuration of the vehicle, please see the Service Parts ID Label, and refer to CELL Link Error - Link target cell (cell ID 47866) is invalid for this publication..

Each item in the list below represents topics covered in detail below.

- Radio Circuit Operation
- Information Display and Controls
- Antenna System
- Radio Reception
- Speaker Operation
- Audio Amplifier (If equipped)
- Theft Deterrent
- Bluetooth ® (if equipped)
- Auxiliary Audio Input Jack (If equipped)
- USB Port (If equipped)
- OnStar ®
- Steering Wheel Controls (If equipped)
- SCV (Speed Compensated Volume)
- FOTA (Firmware Over The Air)

Radio Circuit Operation

Radio Power

The radio is supplied power by a fused B+ circuit. The radio does not use a discrete ignition feed circuit for power moding. The power mode master provides the system power mode to the radio via serial data messages. The power mode master determines the system power mode by processing power mode information from ignition switch inputs. Serial data power modes supported by the radio are OFF, ACCESSORY, RUN, and CRANK REQUEST.

Radio Grounds

The vehicle harness provides a ground for the radio circuits. The radio may also be case grounded.

Radio Data Link Communication

The radio communicates with other modules via serial data.

Radio Audio Outputs

Each of the audio output channel circuits (+) and (-), at the radio have a DC bias voltage that is approximately one half of battery voltage. The audio being played on the system is produced by a varying AC voltage that is centered around the DC bias voltage on the same circuit. The AC voltage is what causes the speaker cone to move and produce sound. The frequency (Hz) of the AC voltage signal is directly related to the frequency of the input (audio source playing) to the audio system. Both the DC bias voltage and the AC voltage signals are needed for the audio system to properly produce sound.

Information Display and Controls

The info display module and radio controls can be separate components from the radio or combined with the radio into one assembly.

When the info display module and radio controls are separate the radio controls communicate radio control inputs directly to the radio through discrete circuits for volume up, volume down and power ON button. It also uses a series of resistors through a single signal circuit when the home, seek up, seek down and phone buttons are pressed. After receiving the message the radio will perform the requested function. The info display module receives digital video data from the radio for on-screen display information through the LVDS (Low Voltage Differential Signal) cable. The radio communicates with the info display module over the radio display touch interrupt request signal for touch screen inputs.

Antenna System

Multi-Band Antenna

The multi-band antenna is located on the roof of the vehicle. This type of antenna may be used with the AM/FM radio, but is primarily for cellular and GPS signals, if the vehicle has these features. Keep this antenna clear of snow and ice build up for clear reception. If the vehicle has a sunroof, the performance of the system may be affected if the sunroof is open. Loading items onto the roof of the vehicle can interfere with the performance of the system, ensure the multi-band antenna is not obstructed.

Active Antenna

The active antenna system uses an integral antenna applied as an appliqué to the rear glass. The antenna module receives both AM and FM signals from the rear glass antenna. The antenna is part of the rear window and looks similar to the defogger grid. One antenna receives AM signals while the other antenna receives FM signals. Any damage to the antenna requires replacing the glass.

The radio antenna module is enabled when the radio is turned on. The radio provides battery voltage to the antenna module using the center conductor of the antenna coaxial cable. When a 12 V signal is seen by the module on the center conductor of the antenna coax, both AM and FM signals are amplified.

Radio Reception

AM/FM Radio Signal

The radio signal is sent from a broadcast station and is then received by an antenna. The strength of the signal received depends on the following:

- The power output (wattage) of the broadcasting station
- The location of the vehicle (or receiver) relative to the broadcast tower.
- Height of the broadcast antenna
- Height of the receiving antenna
- Obstacles between the tower and the receiver
- Atmospheric conditions
- What band (AM or FM) the station is broadcasting
- Type of antenna and the ground plane

Radio Data System (RDS)

The RDS feature is available only on FM stations that broadcast RDS information. This system relies upon receiving specific information from these stations and only works when the information is available. While the radio is tuned to an FM-RDS station, the station name or call letters display. RDS data is carried in what is known as a "subcarrier". A subcarrier is a frequency that the FM broadcaster is authorized to use to send data that is not audible in the main audio program.

RDS functions will only work with FM broadcast stations that are broadcasting RDS data. Not all FM Broadcast stations broadcast RDS data or offer all of the RDS services.

The information displayed is dependent upon the information broadcast by the particular station. The information may vary greatly between stations. RDS functions may not work properly when reception is weak, reception is of poor quality, or RDS is not implemented properly by the FM Broadcaster. In some cases, a radio station broadcasting incorrect information may cause the RDS features of the radio to appear to work improperly.

With RDS, the radio can do the following:

- Display text information such as: station identification, type of programming, and general information (artist and song title, station messages, call in phone numbers, etc.).
- Seek to stations broadcasting the selected type of programming
- Receive announcements concerning local and national emergencies
- Receive alert warnings of local or national emergencies. When an alert announcement comes on the current radio station, ALERT! displays. You will hear the announcement, even if the volume is low or if an auxiliary device is playing. If an auxiliary device is playing, play stops during the announcement. Alert announcements cannot be turned off. ALERT! is not affected by tests of the emergency broadcast system. This feature is not supported by all RDS stations.

Digital Radio Receiver (If equipped)

The vehicle may have one of two digital radio options, satellite transmitted (XM-Sirius) or terrestrial Digital Audio Broadcast (DAB) depending on geographical area.

XM-Sirius

The XM satellite receiver is integrated into the radio. XM satellite radio provides digital radio reception. The XM signal is broadcast from two satellites and, where necessary, terrestrial repeaters. The high power satellites allow the antenna to receive the XM signal even when foliage and other partial obstructions block the antennas view of the satellite. Terrestrial repeaters are used in dense urban areas. These repeaters will receive the satellite signal and re-broadcast them at much higher power levels in order to ensure reception in areas with densely packed tall buildings. A service fee is required in order to receive the XM service.

Digital Audio Broadcast (DAB)

The DAB receiver is integrated into the radio. DAB radio provides digital radio reception. The DAB signal is broadcast from terrestrial transmitters. Services available can include: main radio stations, additional stations (news, sports, etc..) and data services (digital images, video and other data). The availability of services is dependent upon broadcasters in the area. The strength of the DAB signal depends on the following:

- The power output (wattage) of the broadcasting station
- Location of the vehicle (or receiver) relative to the broadcast tower
- Height of the broadcast antenna
- Height of the receiving antenna
- Obstacles between the tower and the receiver
- Type of antenna and the ground plane

Speaker Operation

Speakers turn electrical energy into mechanical energy to move air, using a permanent magnet and an electromagnet. The electromagnet is energized when the radio or amplifier (if equipped) delivers current to the voice coil on the speaker. The voice coil will form a north and south pole that will cause the voice coil and the speaker cone to move in relation to the permanent magnet. The current delivered to the speaker is rapidly changing alternating current (A/C). This causes the speaker cone to move in two directions producing sound.

Audio Amplifier (If equipped)

Amplifier Interface

A fused battery voltage circuit provides the main amplifier power. A switched 12 V output from the radio is used to control the power - state of the amplifier. To respond quickly to audio input and control signals, the amplifier is ON in all vehicle power modes except OFF and CRANK Request. The internal amplifier bridges are fully powered and unmuted when the amplifier receives the switched 12 V input.

Amplifier Operation

The purpose of the amplifier is to increase the power of a voltage or current signal. The output signal of an amplifier may consist of the same frequencies as the input signal or it may consist of only a portion of the frequencies as in the case of a subwoofer or midrange speaker. The radio creates a low level stereo audio output signal, which is sent at the user-defined volume level to the audio amplifier. The audio amplifier amplifies the signal and sends it to the appropriate speakers. Each of the audio output channel circuits (+) and (-), from the amplifier have a DC bias voltage that is approximately one half of battery voltage. The audio being played on the system is produced by a varying AC voltage that is centered around the DC bias voltage on the same circuit. The AC voltage is what causes the speaker cone to move and produce sound. The frequency (Hz) of the AC voltage signal is directly related to the frequency of the input (audio source playing) to the audio system. Both the DC bias voltage and the AC voltage signals are needed for the audio system to properly produce sound.

Theft Deterrent

The radio theft deterrent system is intended to disable or limit radio functionality if incorrect vehicle information is received by the radio. The radio disables functionality if the VIN information received by the radio does not match the VIN information that has been learned by the radio. The radio receives this information via serial data. A possible cause of incorrect VIN info could be the radio was originally installed in another vehicle.

The radio has the following theft operating modes as part of the theft deterrent system:

- Normal Mode: The radio has learned a correct VIN sequence and the VIN information received via serial data matches the learned VIN sequence. In this mode the radio has full functionality.
- No VIN Mode: The radio has not received or learned a correct VIN sequence. In this mode the radio has limited functionality.
- Theft Detected Mode: The radio has learned a correct VIN sequence and the VIN information received via serial data does NOT match the learned VIN sequence. In this mode the radio may be disabled or have limited functionality. The radio display will indicate that theft protection is active.

Bluetooth® (If Equipped)

Bluetooth® wireless technology is a short-range communications technology intended to replace the cables connecting portable and/or fixed devices while maintaining high levels of security. Only vehicles with steering wheel controls will have Bluetooth® functionality. In order to utilize the vehicle’s Bluetooth® system, a Bluetooth® equipped cellular phone is required.

The Bluetooth® antenna is internal to the telematics communication interface control module, radio or human machine interface module and is used to send and receive signals from a Bluetooth® enabled cellular phone. The available features and functions are determined by the software within the device being used and the telematics communication interface control module. The operating range of the signal from the vehicle is approximately 30 feet. Note that the operating range is dependent upon the cellular phone being used and battery level of the phone.

With Bluetooth® technology customers can experience hands-free calling as their Bluetooth® capable cellular phones are wirelessly connected to the vehicle. It will allow customers to place and receive calls using the steering wheel controls and voice recognition. The vehicle audio system will allow you to listen to your call through the vehicle speakers and adjust volume through steering wheel or radio controls.

Not all Bluetooth® cellular phones are guaranteed to work with the vehicle’s Bluetooth® system. Based on the cellular phone’s service provider and the manufacturer’s implementation of Bluetooth®, not all phones support all available Bluetooth® functionality. Bluetooth® enabled cellular phones will be tested for vehicle compatibility and a feature compatibility list will be provided via the GM Bluetooth® website: http://www.gm.com/vc/bluetooth/

Bluetooth® Features Supported

The following is a list of features supported by the Bluetooth® system. Note that not all devices will support all of the listed functions.

- Automatic reconnection – highest priority phone will automatically be connected to vehicle when vehicle ignition is on
- Hands-free dialing- via digits, redial, name tags (phone number saved to a nametag via voice recognition)
- Answering a call
- Ending a call
- Mute a Call
- Rejecting a call – ignore an incoming call
- Call Waiting
- Three-way Calling – initiated from hands-free system
- Send Number During a Call – this is used when calling a menu-driven phone system
- Transfer a Call – transfer call from vehicle to cellular phone and visa versa
- Voice Pass-Thru – allow access to the voice recognition commands on the cellular phone

Auxiliary Audio Input Jack (If equipped)

The infotainment system may have a 3.5mm (1/8 in.) auxiliary audio input jack located in the center console or on the radio faceplate. The auxiliary audio input jack interfaces directly with the radio. When a portable audio playback device is connected to the auxiliary jack, an internal switch detects the connection and the radio will switch to AUX as the audio source. Audio signals from the device are sent to the radio from the auxiliary jack via the left, right, and common audio signal circuits.

- When a device is first connected to the 3.5mm (1/8 in.) input jack the infotainment system automatically switches to that device. If an auxiliary device has already been connected, press the Media or AUX button to select the device.
- Playback of an audio device that is connected to the 3.5mm jack can only be controlled using the controls on the device.
- The volume control on the device may need to be adjusted to ensure sufficient playback volume through the infotainment system.

USB Port (If Equipped)

The infotainment system may have a USB connector located in the center console. The USB connector interfaces directly with the radio. The USB connector supports both USB standards 1.1 and 2.0.

USB Supported Devices:

- USB Flash Sticks (Thumb Drives)
- Portable USB Hard Drives
- Portable Digital Media Players (iPOD®, ZUNE®, etc)

Depending on the USB device, some devices may not be recognized, or some features/functions may not be able to be controlled with the radio controls. USB HUB devices are not supported.

Refer to the owner’s manual for information on USB devices, control, and operation.

OnStar ® (If equipped)

When OnStar is activated, a serial data message is sent to the radio that activates a software program. When the software begins its process, the fade goes to the front, Bass and Treble are set to the mid range, the outputs are mono, and the audio source is OnStar. OnStar takes priority over any other audio source. All of these actions are preset values stored in the radio.

Steering Wheel Controls (If equipped)

Some audio functions are available using the steering wheel controls. The steering wheel controls duplicate the function of the primary controls available on the radio.

For additional information on steering wheel controls, refer to Steering Wheel Controls Description and Operation.

Speed Compensated Volume

With Speed Compensated Volume the audio system will adjust automatically to make up for road and wind noise as you drive, by increasing the volume as vehicle speed increases. To use speed compensated volume, set the volume to the desired level, then select either Low, Medium, or High. To turn SCV off select the Off screen button.

Firmware Over The Air

The Firmware Over The Air feature was designed to reflash software remotely. Remote reflash is an in-vehicle feature that enables the installation of a software package to update the infotainment system without requiring service test equipment to be physically connected to the vehicle. Remote reflash will utilize a long range or short range connection from the host module to a remote IT system.

Video Entertainment System Description and Operation

Each item in the list below represents topics covered below:

- Rear Seat Entertainment System Components
- Media Disc Player
- Video Display Screens
- Remote Control
- Wireless Headphones
- Wired Headphone Jack
- Auxiliary Inputs

Rear Seat Entertainment System Components

The rear seat entertainment system includes:

- The disc player for playing optical media.
- A video display screen
- An infrared module located in the rear video display
- Two sets of wireless infrared headphones
- A wireless infrared remote control
- An auxiliary input assembly

Media Disc Player

The media disc player is responsible for playing optical media for the infotainment system, refer to the Owners Manual for supported media types.

The media disc player is a separate component from the radio. The media disc player receives power, ground and serial data from the vehicle harness. The media disc player receives control information and outputs audio to the infotainment system over the MOST bus. The media disc player provides a discrete circuit to control the power state of the rear displays.

The media disc player is also the control module for the rear seat entertainment system, responsible for video output, infrared audio, screen controls and source selections for the system. All information to the video screen is communicated over the LVDS cable. One cable is connected to the front display, and a second cable is connected to the rear display.

Video Display Screens

Front Display

When the vehicle is in PARK, the front display is capable of showing video sourced from the media disc player. Information is transmitted to the display from the media disc player via the blue LVDS cable. On screen controls are available to provide the operator with playback controls and other options.

Rear Display

The second row overhead display is located in the headliner. The display screen shows video from the media disc player, or an AUX input device.

The display receives power and ground from the vehicle harness. A discrete control circuit from the media disc player is used to control the power state of the display. The display receives all other video, audio, and control information via the LVDS cable.

The display contains the infrared transmitters for the wireless headphones and the remote control. During operation, the infrared transmitters may be visible as illuminated LEDs.

Remote Control

The wireless remote control is used to operate the system from the rear seat. Infrared signals from the remote control are received by the infrared receivers in display. The remote control can be used to turn the rear screen on or off, to change system settings, and to select the source for the screen from the media available to the infotainment system. Refer to the Owners Manual for additional information on remote control functions.

Direct sunlight or very bright light may affect the ability of the infrared receivers to respond to signals from the remote control. Objects blocking the line of sight may also affect the function of the remote control.

Wireless Headphones

Wireless headphones allow for rear seat passengers to listen to an audio source without disturbing the listening of front seat passengers. The wireless headphones receive audio signals from the infrared transmitter in the display. This transmission is line of sight only, so audio quality may be degraded if anything blocks the transmitter signal from reaching the headphones.

A power button on the headphone is used to turn the headphone on. A red LED illuminates when the headphone is turned ON. The headphones automatically turn OFF if they lose the infrared signal from the system for approximately 4 minutes in order to preserve their battery power. The signal may be lost if the system is turned off or if the headphones are out of range of the infrared signal transmitters.

Each set of headphones has a rotary volume control on one of the earpieces. To adjust the volume, adjust this control.

Audio to the wireless headphones is provided over 2 channels. Audio for channel 1 or channel 2 is selected from one of the available sources using the remote control. Pressing the button in the center of the headphone volume control will switch the headphone between channels.

Auxiliary Inputs

The rear seat entertainment system has an auxiliary input assembly that contains a USB port, an SD card reader, RCA type audio/video jacks, and a wired headphone jack with volume control. Refer to the Owners Manual for information on compatible devices and supported media types/formats.

USB port and SD Card Reader

The USB port and SD card reader slot interface with a hub device, internal to the assembly. The assembly receives fused battery voltage and ground from the harness to power the internal hub device as well as providing additional amperage to power USB devices.

The internal hub device interfaces directly with the media disc player via a standard USB cable. A Mini type USB connector is used to connect the cable at the media disc player and the auxiliary input assembly. Mini type USB male to female connections are used for connecting USB cables together where an in-line connection is required. An in-line cable connection is typically found between the console and I/P harness.

The USB port allows connectivity to the rear seat entertainment system from portable media players or a USB storage device (memory stick/ flash drive). The rear seat entertainment uses the SD card reader as a mass storage device, similar to a USB storage device.

Once a supported device is connected to the USB port or SD card reader, the device may be sourced to one or both of the rear displays using the remote control.

Video

The local video input is the standard yellow RCA color-coded jacks. A composite video signal from a device can be attached to this input and is then available to be sourced to one or both of the rear screens. To use this video input, connect the auxiliary device cables to the RCA jacks and power ON both the auxiliary device and the rear seat entertainment system.

Power for the device is not supplied by this connection. The rear seat entertainment system cannot control the operation of devices connected to the RCA jacks. All operation of the device must be done using the controls available on the device.

Wired Headphone Jack

The wired headphone jack is used to connect an additional set of headphones to the system. Audio for the wired headphone jack can be from either the left or the right screen source, and is selected using the remote control.

Audio to the wired headphone jack is transmitted through the vehicle harness from the media disc player. A rotary control near the headphone jack is used to adjust the volume.

Driver Information and Entertainment

Displays and Gauges

Specifications

Fuel Level Specifications

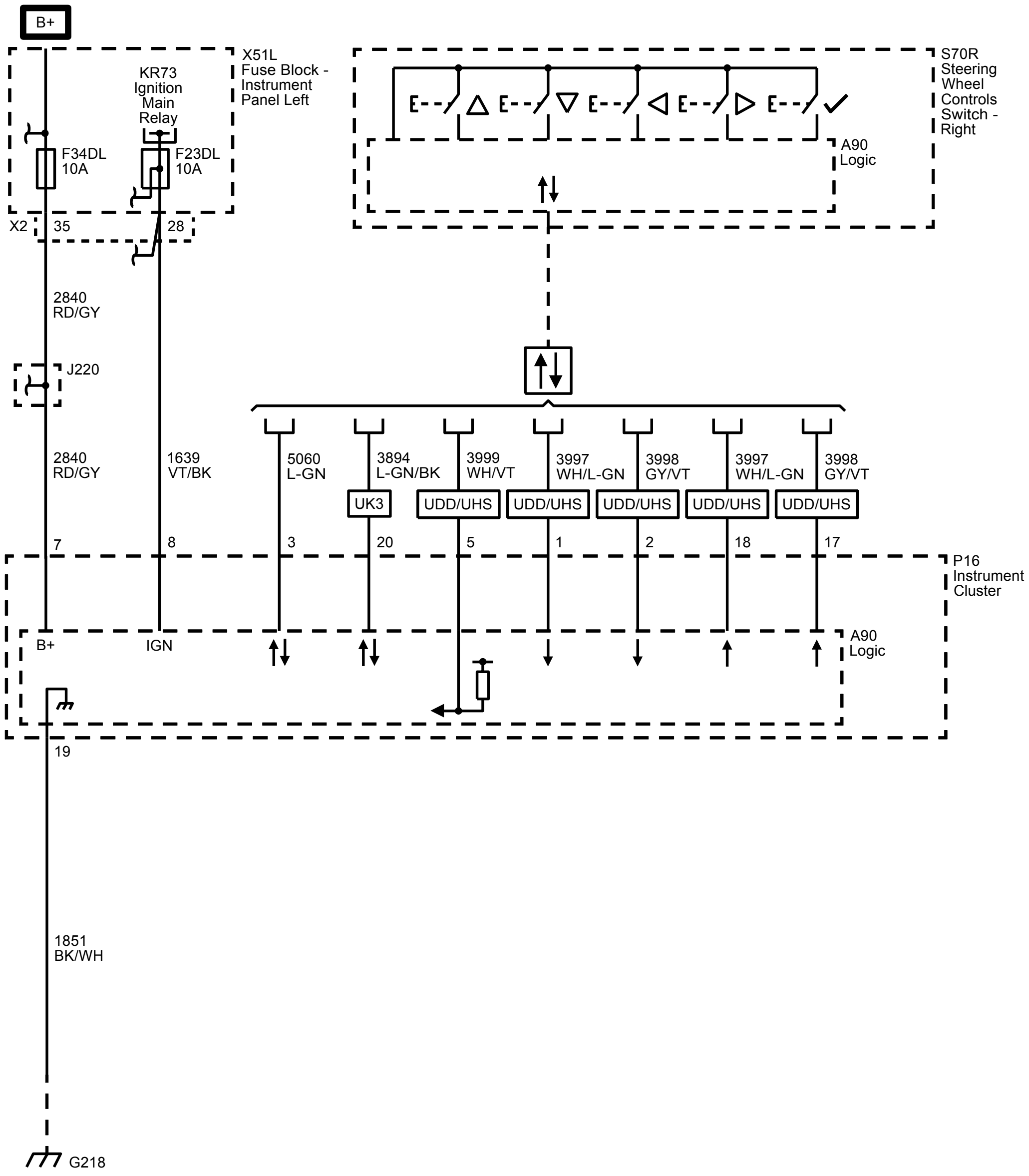
Fuel Level Specifications

Approximate CNG Fuel Pressure (psi)	Alternate Fuel Tank Pressure Signal (Volts)
0	0.50
50	0.55
100	0.60
150	0.65
200	0.70
250	0.75
300	0.80
350	0.84
400	0.89
450	0.94
500	0.99
550	1.04
600	1.09
650	1.14
700	1.19
750	1.24
800	1.29
850	1.34
900	1.39
950	1.44
1000	1.48
1050	1.53
1100	1.58
1150	1.63
1200	1.68

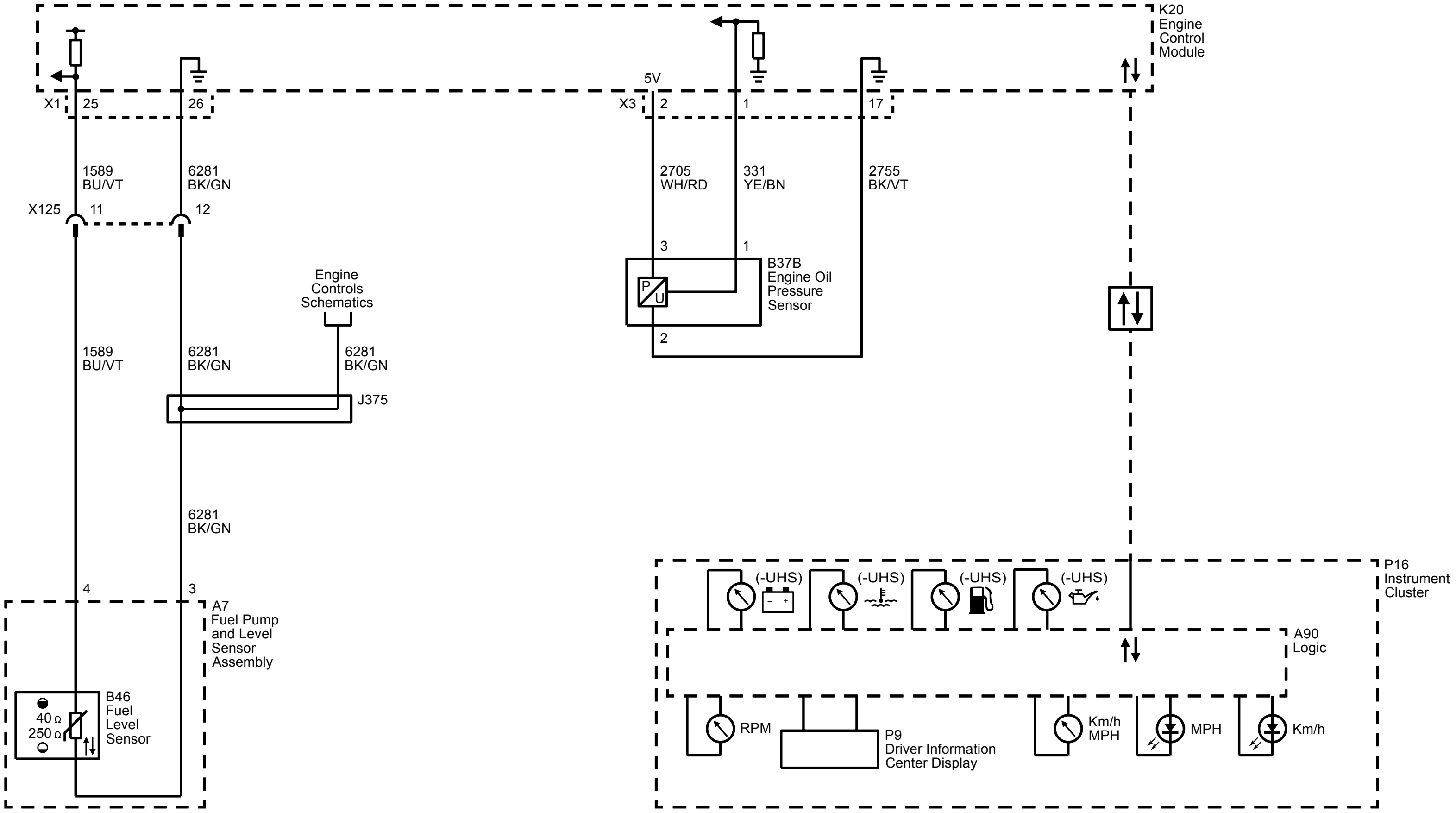
1250	1.73
1300	1.78
1350	1.83
1400	1.88
1450	1.93
1500	1.98
1550	2.03
1600	2.08
1650	2.13
1700	2.17
1750	2.22
1800	2.27
1850	2.32
1900	2.37
1950	2.42
2000	2.47
2050	2.52
2100	2.57
2150	2.62
2200	2.67
2250	2.72
2300	2.77
2350	2.81
2400	2.86
2450	2.91
2500	2.96
2550	3.01
2600	3.06
2650	3.11
2700	3.16
2750	3.21

2800	3.26
2850	3.31
2900	3.36
2950	3.41
3000	3.45
3050	3.50
3100	3.55
3150	3.60
3200	3.65
3250	3.70
3300	3.75
3350	3.80
3400	3.85
3450	3.90
3500	3.95
3550	4.00
3600	4.05
3650	4.10
3700	4.14
3750	4.19
3800	4.24
3850	4.29
3900	4.34
3950	4.39
4000	4.44

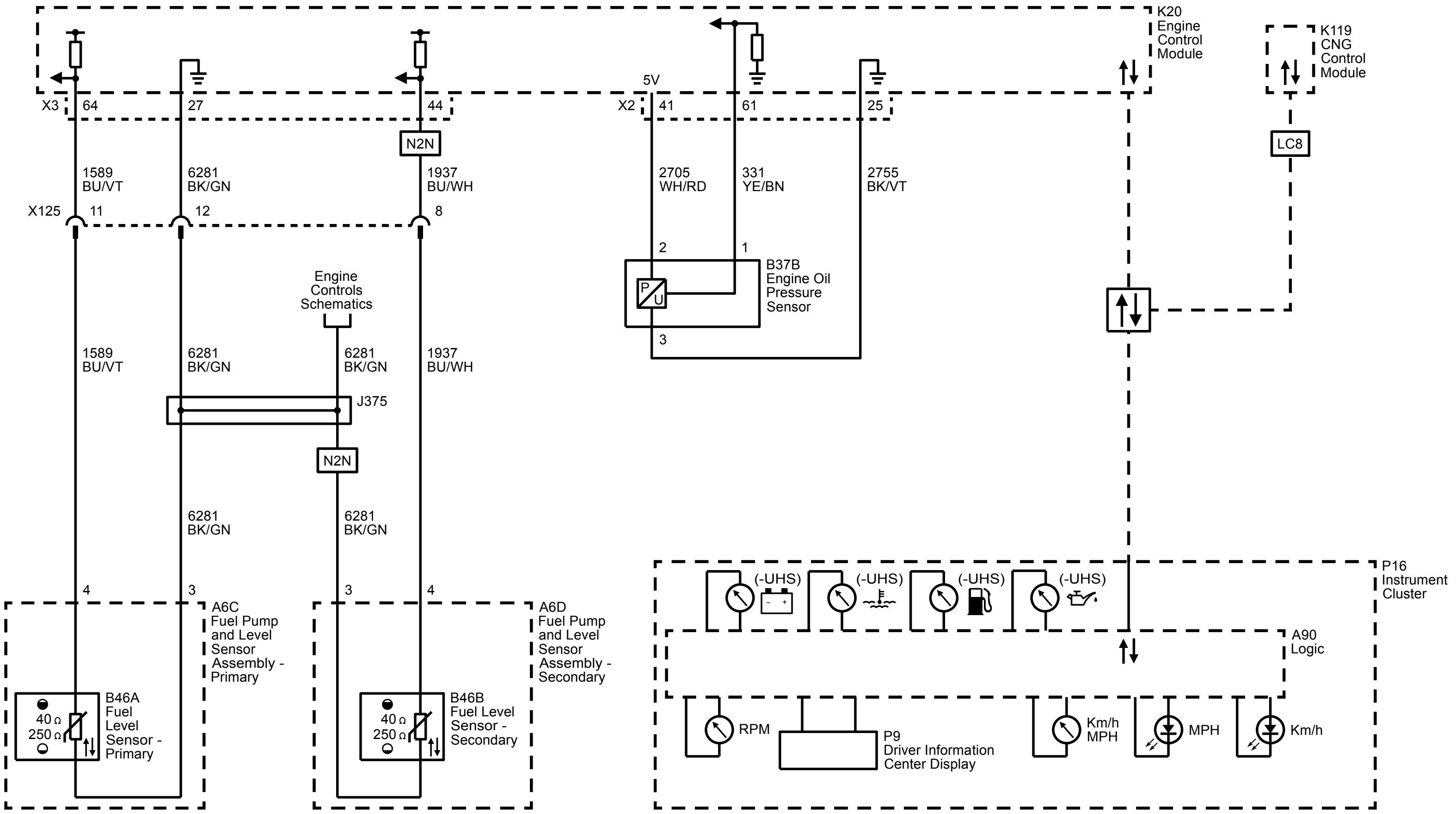
Power, Ground and Serial Data

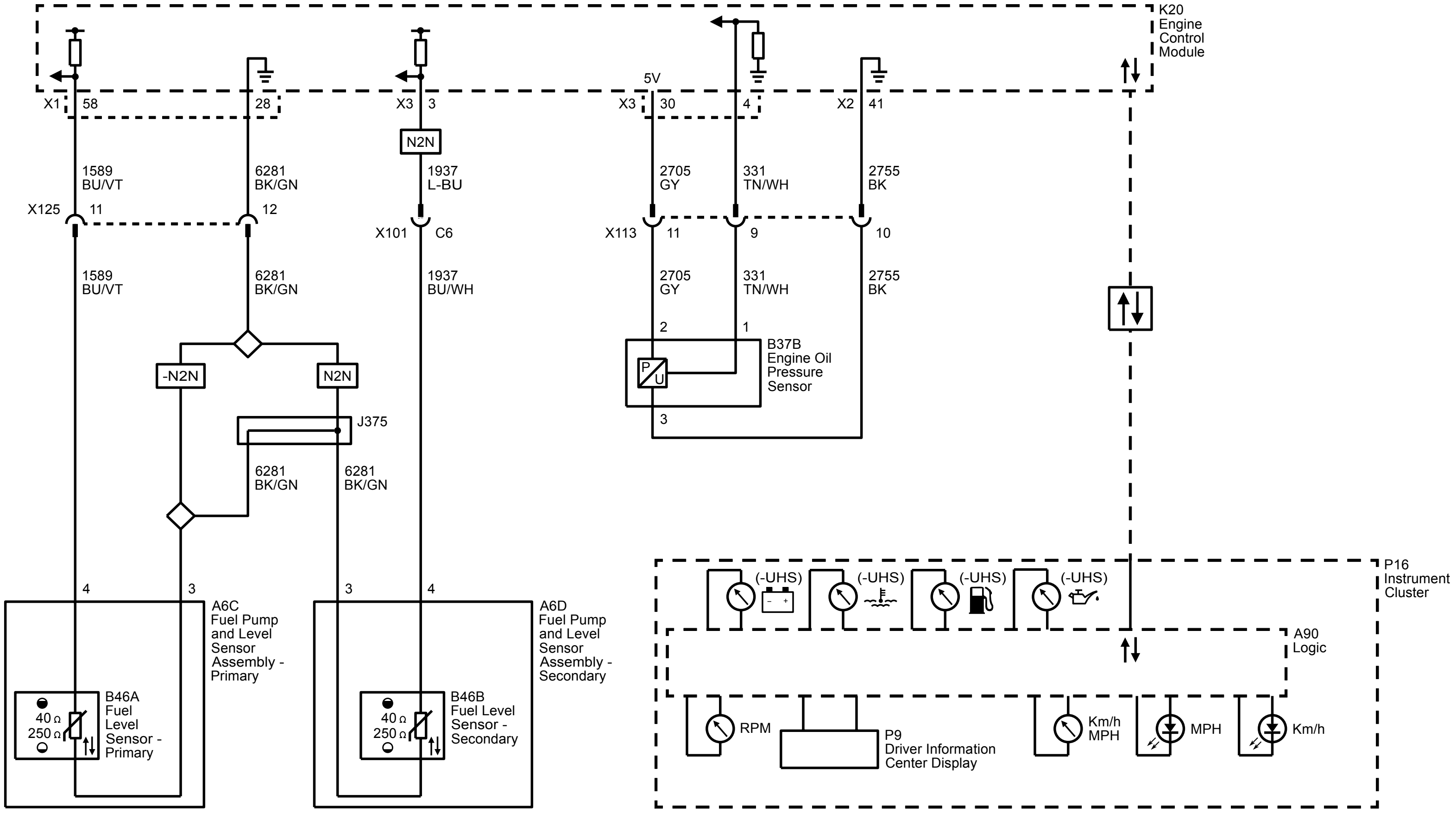

B+
X51L
Fuse Block -
Instrument
Panel Left
KR73
Ignition
Main
Relay
F34DL
10A
F23DL
10A
X2
35
28
2840
RD/GY
J220
2840
RD/GY
1639
VT/BK
S70R
Steering
Wheel
Controls
Switch -
Right
A90
Logic
5060
L-GN
3894
L-GN/BK
3999
WH/VT
3997
WH/L-GN
3998
GY/VT
3997
WH/L-GN
3998
GY/VT
UK3
UDD/UHS
UDD/UHS
UDD/UHS
UDD/UHS
UDD/UHS
7
8
3
20
5
1
2
18
17
P16
Instrument
Cluster
A90
Logic
B+
IGN
19
1851
BK/WH
G218

LOC
DESC

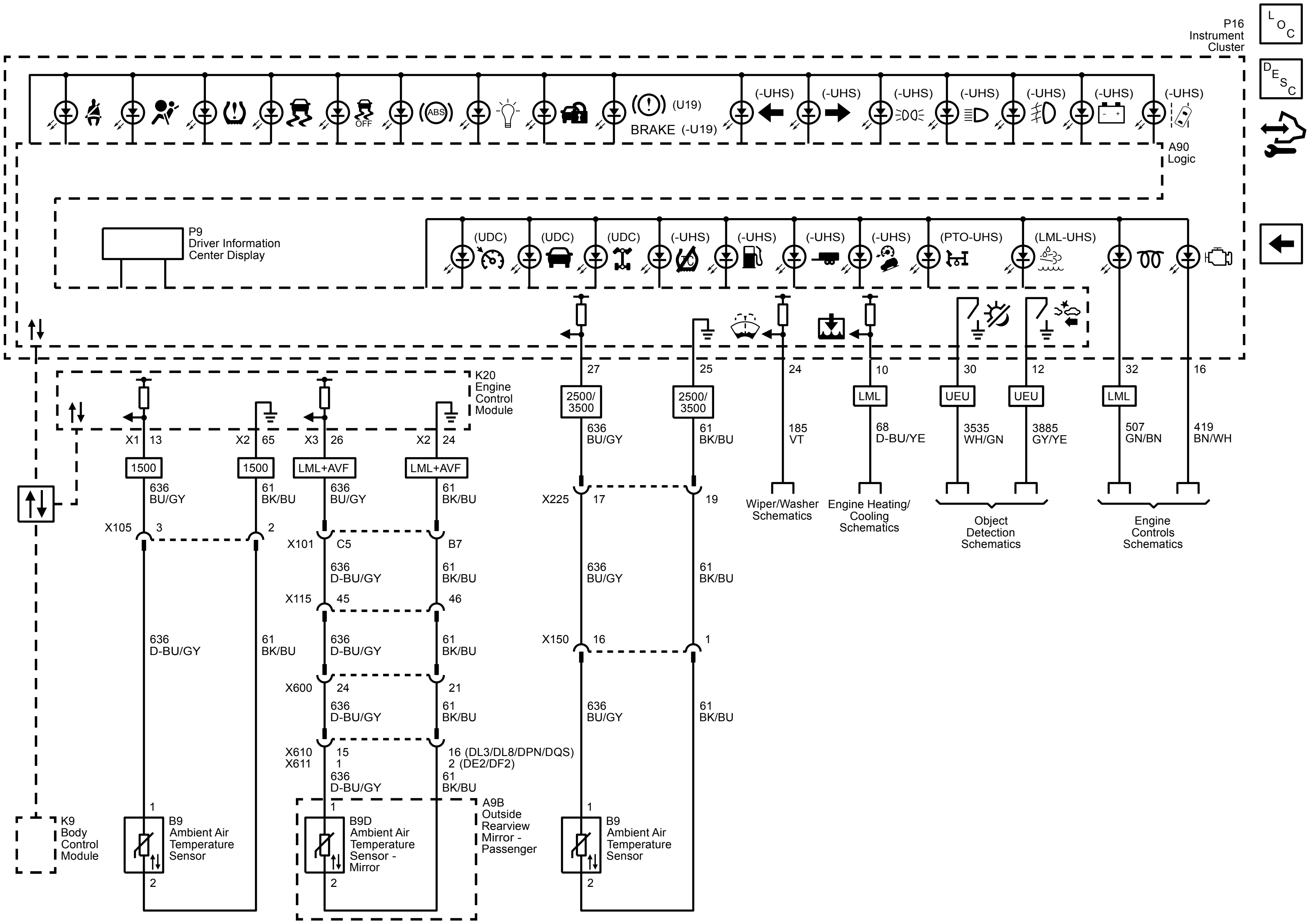

K20
Engine
Control
Module
X1
25
26
5V
X3
2
1
17
1589
BU/VT
6281
BK/GN
2705
WH/RD
331
YE/BN
2755
BK/VT
X125
11
12
3
1
B37B
Engine Oil
Pressure
Sensor
P
U
2
Engine
Controls
Schematics
1589
BU/VT
6281
BK/GN
6281
BK/GN
J375
6281
BK/GN
4
3
A7
Fuel Pump
and Level
Sensor
Assembly
B46
Fuel
Level
Sensor
40 Ω
250 Ω
P16
Instrument
Cluster
(-UHS)
(-UHS)
(-UHS)
(-UHS)
A90
Logic
RPM
P9
Driver Information
Center Display
Km/h
MPH
MPH
Km/h

Gages (L96 or LC8)


K20
Engine
Control
Module
K119
CNG
Control
Module
X3
64
27
44
N2N
5V
X2
41
61
25
LC8
1589
BU/VT
6281
BK/GN
1937
BU/WH
2705
WH/RD
331
YE/BN
2755
BK/VT
X125
11
12
8
2
1
B37B
Engine Oil
Pressure
Sensor
P
U
3
Engine
Controls
Schematics
1589
BU/VT
6281
BK/GN
6281
BK/GN
1937
BU/WH
J375
N2N
6281
BK/GN
6281
BK/GN
4
3
A6C
Fuel Pump
and Level
Sensor
Assembly -
Primary
3
4
A6D
Fuel Pump
and Level
Sensor
Assembly -
Secondary
B46A
Fuel
Level
Sensor -
Primary
40 Ω
250 Ω
B46B
Fuel Level
Sensor -
Secondary
40 Ω
250 Ω
(-UHS)
(-UHS)
(-UHS)
(-UHS)
P16
Instrument
Cluster
A90
Logic
RPM
P9
Driver Information
Center Display
Km/h
MPH
MPH
Km/h

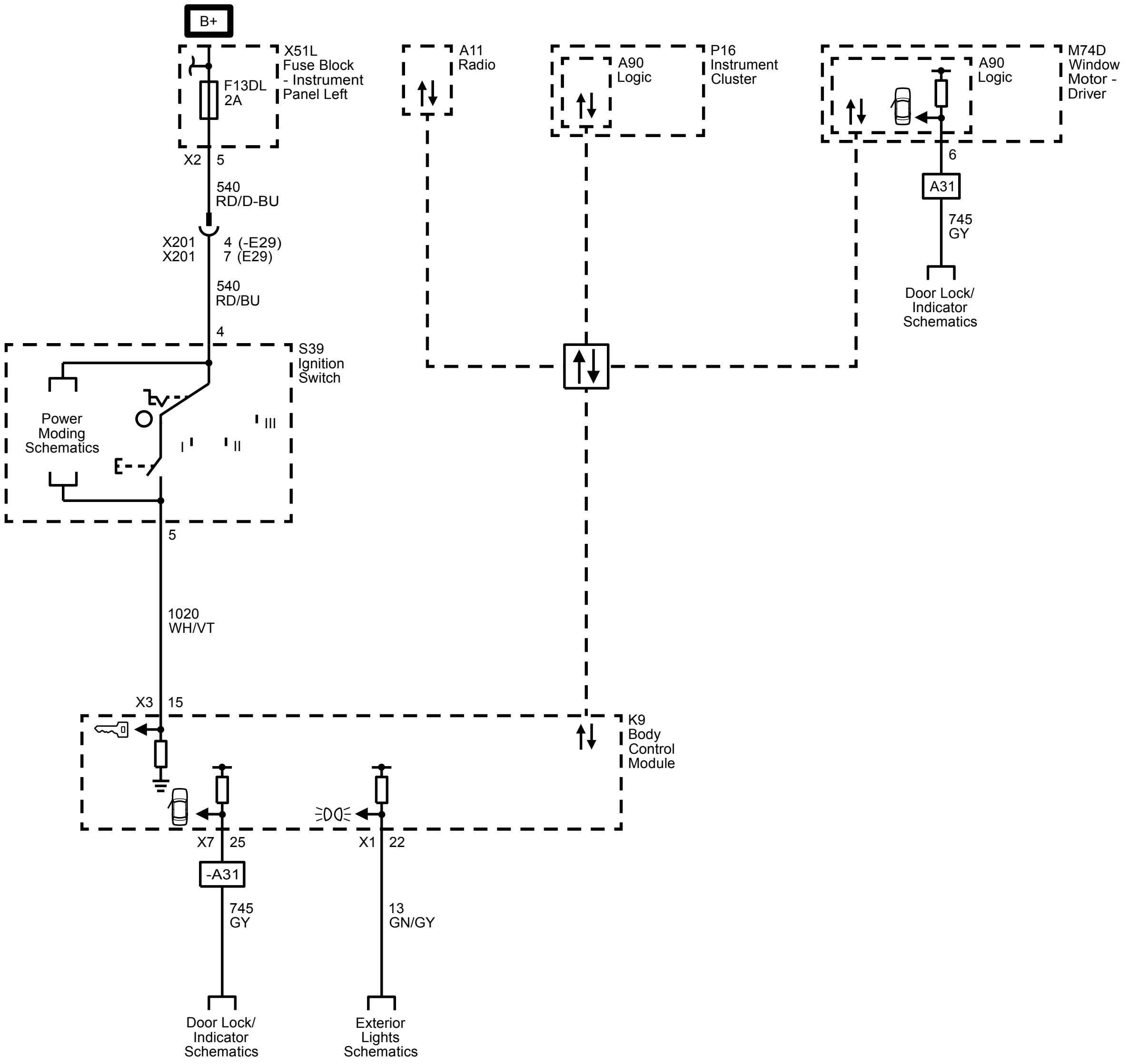

K20
Engine
Control
Module
X1
58
28
X3
3
5V
X3
30
4
X2
41
N2N
1589
BU/VT
6281
BK/GN
1937
L-BU
2705
GY
331
TN/WH
2755
BK
X125
11
12
X101
C6
X113
11
9
10
1589
BU/VT
6281
BK/GN
1937
BU/WH
2705
GY
331
TN/WH
2755
BK
2
1
B37B
Engine Oil
Pressure
Sensor
P
U
3
-N2N
N2N
J375
6281
BK/GN
6281
BK/GN
4
3
3
4
A6C
Fuel Pump
and Level
Sensor
Assembly -
Primary
B46A
Fuel
Level
Sensor -
Primary
40 Ω
250 Ω
A6D
Fuel Pump
and Level
Sensor
Assembly -
Secondary
B46B
Fuel Level
Sensor -
Secondary
40 Ω
250 Ω
P16
Instrument
Cluster
(-UHS)
(-UHS)
(-UHS)
(-UHS)
A90
Logic
RPM
P9
Driver Information
Center Display
Km/h
MPH
MPH
Km/h

Indicators and Ambient Temperature


P16 Instrument Cluster
LOC
DESC
(U19)
BRAKE (-U19)
(-UHS)
(-UHS)
(-UHS)
(-UHS)
(-UHS)
(-UHS)
(-UHS)
ABS
OFF
A90 Logic
P9 Driver Information Center Display
(UDC)
(UDC)
(UDC)
(-UHS)
(-UHS)
(-UHS)
(-UHS)
(PTO-UHS)
(LML-UHS)
27
25
24
10
30
12
32
16
2500/ 3500
2500/ 3500
LML
UEU
UEU
LML
636 BU/GY
61 BK/BU
185 VT
68 D-BU/YE
3535 WH/GN
3885 GY/YE
507 GN/BN
419 BN/WH
Wiper/Washer Schematics
Engine Heating/ Cooling Schematics
Object Detection Schematics
Engine Controls Schematics
K20 Engine Control Module
X1 13
X2 65
X3 26
X2 24
1500
1500
LML+AVF
LML+AVF
636 BU/GY
61 BK/BU
636 BU/GY
61 BK/BU
X105 3
2
X101 C5
B7
636 D-BU/GY
61 BK/BU
X115 45
46
636 D-BU/GY
61 BK/BU
X600 24
21
636 D-BU/GY
61 BK/BU
X610 15
X611 1
16 (DL3/DL8/DPN/DQS)
2 (DE2/DF2)
636 D-BU/GY
61 BK/BU
636 D-BU/GY
61 BK/BU
X225 17
19
636 BU/GY
61 BK/BU
X150 16
1
636 BU/GY
61 BK/BU
1
2
K9 Body Control Module
B9 Ambient Air Temperature Sensor
B9D Ambient Air Temperature Sensor - Mirror
A9B Outside Rearview Mirror - Passenger
B9 Ambient Air Temperature Sensor

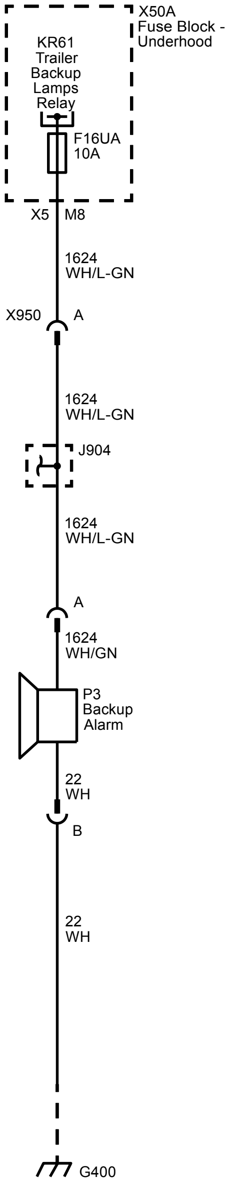
Audible Warnings Schematics

Audible Warnings



B+
X51L
Fuse Block
- Instrument
Panel Left
F13DL
2A
X2
5
540
RD/D-BU
X201
X201
4 (-E29)
7 (E29)
540
RD/BU
4
S39
Ignition
Switch
Power
Moding
Schematics
I
II
III
5
1020
WH/VT
A11
Radio
A90
Logic
P16
Instrument
Cluster
A90
Logic
M74D
Window
Motor -
Driver
6
A31
745
GY
Door Lock/
Indicator
Schematics
X3
15
K9
Body
Control
Module
X7
25
-A31
745
GY
Door Lock/
Indicator
Schematics
X1
22
13
GN/GY
Exterior
Lights
Schematics

Backup Alarm (8S3)


X50A
Fuse Block -
Underhood
KR61
Trailer
Backup
Lamps
Relay
F16UA
10A
X5
M8
1624
WH/L-GN
X950
A
1624
WH/L-GN
J904
1624
WH/L-GN
A
1624
WH/GN
P3
Backup
Alarm
22
WH
B
22
WH
G400

Description and Operation

Audible Warnings Description and Operation

The audible warnings alert the driver of a system concern or a critical vehicle condition. If equipped with an serial data communicating audio amplifier, the audio amplifier generates the audible warnings through the speakers. If not equipped with an audio amplifier, the radio generates the audible warnings through the speakers. The radio or audio amplifier receives audible warning requests via serial data. If the radio or audio amplifier receives multiple audible warning requests, the warning with the highest priority sounds first. Different audible warnings may sound with a different frequency or a different chime pattern, depending on the system or module making the request. The chime volume may be selectable through vehicle personalization.

Audible Warnings or Chimes

The following is a list of common audible warnings or chimes. For additional chimes or complete system description, refer to the appropriate system's Description and Operation or the vehicle owner's manual.

- Driver Seat Belt Reminder – If the vehicle is started and the seat belt is unbuckled, the BCM requests the radio or audio amplifier sound a chime to indicated that the belt is unbuckled. This is accompanied by a flashing driver seat belt indicator on the instrument cluster. If the belt remains unbuckled, the chime cycle may continue multiple times if the vehicle is driven and the indicator will remain on solid.
- Passenger Seat Belt Reminder – If the passenger presence system determines that their is an occupant in the passenger seat and the vehicle is started with the passenger seat belt unbuckled, the BCM requests the radio or audio amplifier sound a chime to indicated that the belt is unbuckled. This is accompanied by a flashing passenger seat belt indicator. If the belt remains unbuckled, the chime cycle may continue multiple times if the vehicle is driven and the indicator will remain on solid. If an object is placed on the passenger seat, the passenger presence system may interpret this as a passenger occupying the seat. Because the passenger seat belt is unbuckled, the passenger seat belt reminder chime will sound. To correct this, remove the object from the passenger seat.
- Exterior Lamps On Warning – If the exterior lamps are left on after the ignition is turned off and the driver door is opened, the BCM will request the radio or audio amplifier sound a chime as an indicator that the exterior lamps are on.
- Electric Parking Brake (if equipped) – If the electric parking brake switch is pressed while the vehicle is in motion, the parking brake control module will request the radio or audio amplifier sound a chime. To release the parking brake, the brake pedal must be pressed when the electric parking brake switch is pressed. If the brake pedal is not pressed, the parking brake control module will request the radio or audio amplifier sound a chime. A message will also appear on the driver information center.
- Delayed Locking – If the keyless entry transmitter is not in the vehicle and the door lock switch is pressed with the driver door open, the BCM will request the radio or audio amplifier sound a chime three times to indicate that the vehicle has entered a delayed locking state. The doors will automatically lock five seconds after the last door is closed.
- Object Detection – The object detection system sends various chime requests to the radio or audio amplifier during normal operation.

Additional Warnings

The following warnings have an associated instrument cluster indicator or driver information center message:

- Turn Signal Indicators – The radio or audio amplifier activates the audible warning as requested by the BCM.
- Vehicle Overspeed Message – The radio or audio amplifier activates the audible warning as requested by the BCM.
- Fuel Level Low Message – The radio or audio amplifier activates the audible warning as requested by the BCM.
- Oil Pressure Indicator – The radio or audio amplifier activates the audible warning as requested by the BCM.
- Tire Pressure Low Indicator – The radio or audio amplifier activates the audible warning as requested by the BCM.
- Antilock Brake Indicator – The radio or audio amplifier activates the audible warning as requested by the electronic brake control module.
- Engine Cooling System Messages – The radio or audio amplifier activates the audible warning as requested by the engine control module.
- Transmission Messages – The radio or audio amplifier activates the audible warning as requested by the transmission control module.

Backup Alarm (with 8S3)

When transmission placed in reverse, the Body Control Module (BCM) activates the KR61 Trailer Backup Lamps Relay which supplies 12V to the reverse lamps and the Backup Alarm simultaneously.

Indicator/Warning Message Description and Operation

INDICATOR LIGHT ON

Refer to the OWNER'S MANUAL for the descriptions and explanations of all indicator lights.

For diagnosis and repair information related to an indicator light refer to the System Diagnosis and the Description of Operation that the message relates to.

MESSAGE DISPLAYED

Refer to the OWNER'S MANUAL for descriptions and explanations of all messages displayed.

For diagnosis and repair information related to a displayed message refer to the System Diagnosis and the Description of Operation that the message relates to.

CHANGE TIMING BELT MESSAGE

The Instrument Cluster monitors the odometer mileage to determine when timing belt (if equipped) replacement may be necessary. After the vehicle has accumulated approximately 100,000 miles (160,000 kilometers), the Instrument Cluster may display the CHANGE TIMING BELT message. After the engine timing belt has been replaced, reset the CHANGE TIMING BELT message by locating and removing the fuses that supply power to the Instrument Cluster for two minutes.

BRAKES OVERHEATED

The Electronic Brake Control Module monitors brake usage and compares it to an internal thermal model to determine if the brakes could become overheated. If the Electronic Brake Control Module determines the brakes pads have exceeded a desirable temperature based on the thermal model, it sends a serial data message to the Instrument Cluster to display the BRAKES OVERHEATED message. The message remains displayed until the estimated temperature returns to a desirable range.

Transmission Shift Lever Position Indicator

The Transmission Shift Lever Position Indicator (if equipped) is located on the center console and indicates the current transmission shift lever position. The Transmission Shift Lever Position Indicator receives power and ground and is controlled by the Body Control Module (BCM) via serial data. The Transmission Control Module determines transmission shift lever position based on signals from the Transmission Internal Mode Switch and sends the shift lever position information to the BCM via serial data.

Instrument Cluster Description and Operation

Instrument Cluster (with RPO UDC)

The instrument cluster is a multifunction module that provides the vehicle operator with information that is critical to vehicle operation, such as vehicle speed, engine RPM, oil pressure, battery voltage, fuel level, and coolant temperature, using analog gauges. The instrument cluster also provides the operator with operational warnings and message through various indicators and the driver information center. The driver information center is a one color multifunction display that is located in the instrument cluster. The driver information center has several screens that can be scrolled through by twisting the trip reset stem.

Instrument Cluster (with RPO UDD)

The instrument cluster is a multifunction module that provides the vehicle operator with information that is critical to vehicle operation, such as vehicle speed, engine RPM, oil pressure, battery voltage, fuel level, and coolant temperature, using analog gauges. The instrument cluster also provides the operator with operational warnings and message through various indicators and the driver information center. The driver information center is a full color multifunction display that is located in the instrument cluster. The driver information center is also tightly integrated with the vehicle's infotainment system and is highly reconfigurable.

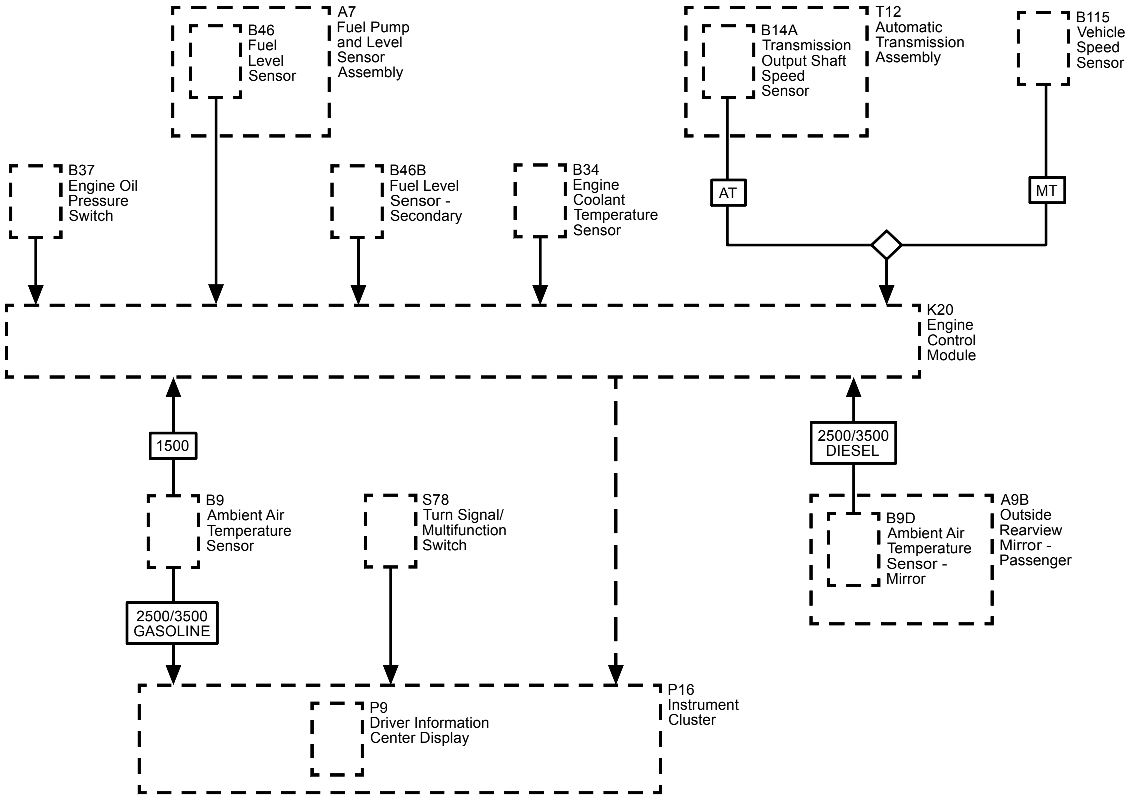
Instrument Cluster (with RPO UHS)

The instrument cluster is a multifunction module that provides the vehicle operator with information such as vehicle speed and engine RPM using analog gauges. Oil pressure, battery voltage, fuel level, and coolant temperature can also be displayed using an interactive LCD display. The instrument cluster is highly reconfigurable, with four different themes available for selection. The instrument cluster also provides the operator with operational warnings and message through various indicators and the driver information center. Because the instrument cluster is an LCD display, driver information center elements are located in various zones of the display, depending on how the instrument panel is configured.

Instrument Cluster (with RPO UDV)

The instrument cluster is a multifunction module that provides the vehicle operator with information that is critical to vehicle operation, such as vehicle speed, engine RPM, and coolant temperature, using an interactive LCD display. The instrument cluster is highly reconfigurable, with four different themes available for selection. The instrument cluster also provides the operator with operational warnings and message through various indicators and the driver information center. Because the instrument cluster is an LCD display, driver information center elements are located in various zones of the display, depending on how the instrument panel is configured.

Displays and Gauges Block Diagram


B46 Fuel Level Sensor
A7 Fuel Pump and Level Sensor Assembly
B14A Transmission Output Shaft Speed Sensor
T12 Automatic Transmission Assembly
B115 Vehicle Speed Sensor
B37 Engine Oil Pressure Switch
B46B Fuel Level Sensor - Secondary
B34 Engine Coolant Temperature Sensor
AT
MT
K20 Engine Control Module
1500
2500/3500 DIESEL
B9 Ambient Air Temperature Sensor
S78 Turn Signal/ Multifunction Switch
B9D Ambient Air Temperature Sensor - Mirror
A9B Outside Rearview Mirror - Passenger
2500/3500 GASOLINE
P9 Driver Information Center Display
P16 Instrument Cluster

Indicators and Warning Messages

Refer to Indicator/Warning Message Description and Operation.

Engine Coolant Temperature Gauge

The instrument cluster displays the engine coolant temperature as determined by the engine control module (ECM). The ECM sends the engine coolant temperature information via serial data to the body control module (BCM). The BCM then sends the information via a serial data to the instrument cluster to display the engine coolant temperature.

Fuel Gauge (Gasoline and Diesel)

The instrument cluster displays the fuel level based on the information from the ECM. The ECM converts the data from the fuel level sensors to a fuel level signal. The ECM sends the fuel level signal via serial data to the BCM. The BCM then sends the information via serial data to the instrument cluster to display the fuel level. If the fuel level falls under 11% the instrument cluster will illuminate the low fuel level indicator. The fuel gauge defaults to empty if:

- The ECM detects a malfunction in the fuel level sensor circuit.

- The BCM detects a loss of serial data communications with the ECM.
- The instrument cluster detects a loss of serial data communications with the BCM.

Fuel Gauge (CNG)

The CNG Control Module monitors the signal of the pressure sensor to determine the amount of pressure in the tank. The CNG Control Module uses this signal in order to calculate the percentage of remaining CNG in the tank. The CNG Control Module sends the fuel level to the instrument cluster via serial data. The instrument cluster then displays the approximate level on the fuel level gauge.

When the engine is in gasoline mode: The instrument cluster displays gasoline fuel level on the fuel gauge and CNG fuel level can be viewed on the Driver Information Center.

When the engine is in CNG mode: The instrument cluster displays CNG fuel level on the fuel gauge and gasoline fuel level can be viewed on the Driver Information Center.

Speedometer

The instrument cluster displays the vehicle speed based on the information from the ECM. The ECM sends the vehicle speed information via serial data to the BCM. The BCM then sends the vehicle speed information via serial data to the instrument cluster to display the vehicle speed.

Odometer

The instrument cluster displays the vehicle odometer in the driver information center. The ECM send a distance rolling count message via serial data to the body control module (BCM). The BCM uses this information to calculate the vehicle odometer. This odometer value is then sent to the instrument cluster. The instrument cluster does not calculate the odometer.

The odometer value is stored in multiple modules. The instrument cluster is a secondary storage module for the odometer, while the BCM is the primary storage and accumulator.

In addition to storing the odometer value for the vehicle, the instrument cluster and the BCM store the VIN. Software checks are performed to ensure these modules, and their stored odometer information, can not be move or transferred between different vehicles.

Tachometer

The instrument cluster displays the engine speed based on the information from the ECM. The ECM converts the data from the crankshaft position sensor to an engine revolution signal. The ECM sends the engine speed information via serial data to the BCM. The BCM then sends the information via serial data to the instrument cluster to display the engine speed.

Compass

The vehicle compass information is gather through the compass module or vehicle communication interface module (VCIM). The compass module or VCIM determines vehicle direction and communicates this with the BCM through serial data. The BCM sends the compass information to the instrument cluster via serial data, where it is displayed.

Outside Air Temperature (1500 series)

The Ambient Air Temperature Sensor is located behind the grille and varies it’s resistance with temperature. The Engine Control Module (ECM) reads the resistance value to determine temperature. The time of and rate of the temperature update is based on an algorithm in the ECM software. Factors such as, last reading, current reading, length of time vehicle is been off/on, power mode, vehicle speed, driven distance, and sensor location are all considered by the ECM to know when to update the displayed temperature. For example, if the sensor is located near the engine compartment, and the vehicle has been turned off for only 10 minutes then restarted, the ECM will wait until the vehicle is driven to get more accurate air flow across the sensor before it updates the display.

Outside Air Temperature (2500/3500 series)

The Ambient Air Temperature Sensor is located behind the grille and varies it’s resistance with temperature. The Instrument Cluster reads the resistance value to determine temperature. The time of and rate of the temperature update is based on an algorithm in the Instrument Cluster software. Factors such as, last reading, current reading, length of time vehicle is been off/on, power mode, vehicle speed, driven distance, and sensor location are all considered by the Instrument Cluster to know when to update the displayed temperature on the Info Display Module. For example, if the sensor is located near the engine compartment, and the vehicle has been turned off for only 10 minutes then restarted, the Instrument Cluster will wait until the vehicle is driven to get more accurate air flow across the sensor before it updates the display.

On vehicles with diesel engines and RPO AVF, there is an additional Ambient Air Temperature Sensor in the Passenger Outside Rearview Mirror. The Engine Control Module (ECM) reads the resistance value of this sensor to determine outside temperature. This temperature reading is only used for powertrain purposes and is not used for the displayed temperature on the Info Display Module.

Driver Information Center Display (with RPO UDD)

The driver information center is located in the lower middle portion of the instrument cluster, between the speedometer and the tachometer. The driver information center displays information about the vehicle and allows the operator to access applications. It also displays warning messages if a system problem is detected.

The driver information center is made up of three zones. The left zone is a list of the applications that can be displayed. The right zone contains choices to customize what information is displayed for the respective application chosen. In the middle is the interactive application display zone. The application display zone allows access to the navigation application, audio application, phone application, or settings applications. The information display zone contains multiple pages that display vehicle information. The compass and PRNDL are displayed at all times in the lower portion of the display zone.

The driver information center can also be configured with several different themes. Changing the theme is accomplished using the infotainment system faceplate settings page. The chosen theme is used for both the faceplate and the driver information center displays.

Instrument Cluster Configuration (with RPO UHS, UDV)

The instrument cluster is highly interactive and reconfigurable. The operator can select from four different display configures and each of these configuration may contain one, two, or three separate display zones. Regardless of which configuration is selected, the vehicle odometer and PRNDL are always displayed in the lower left and lower right corners of the display.

The different display configurations are:

- Simple – The most basic of the available configurations, the Simple configuration includes four static information display zones and one interactive information display zone. The infotainment display zone is located on the left side of the display and displays phone, turn-by-turn navigation, and audio information. The speedometer and compass are located in the upper middle of the display. On the right side of the display is a graphical representation of the fuel level and fuel range.

  Below the speedometer, in the lower middle of the display, is the interactive information display zone. The information display zone contains multiple pages that can be scrolled through and selected using the steering wheel mounted driver information center switch.

- Performance – The Performance configuration contains three static information zones, one interactive information display zone, and one interactive application display zone. The speedometer and tachometer/fuel level gauge are located on the left and right of the display. In between the speedometer and tachometer is a static information display zone that displays current information while the operator scrolls through other pages in the interactive application display zone.

  In the middle of the speedometer is an interactive information display zone. This display zone has a limited number of selection and will only display a digital speedometer, a navigation map, a settings page with sub-menus, or a blank page.

Below the tachometer and extending into the lower middle of the display is an interactive application display zone. The application display zone allows access to the navigation application, audio application, phone application, settings application, or information application. Unlike the information display zone that is located within the speedometer, the information application is fully featured and allows access to all available information pages.

- Balanced – The Balanced configuration contains three static information zones, two interactive information display zones, and one interactive application display zone. The tachometer is located on the left side of the display, the speedometer in the middle, and the coolant temperature/fuel level gauge on the right.

  Located in the tachometer is an interactive information display zone.

  In the speedometer is an interactive information display zone. This display zone has a limited number of selection and will only display a digital speedometer, a navigation map, a settings page with sub-menus, or a blank page.

  An interactive application display zone is located in the coolant temperature/fuel level gauge. The application display zone allows access to the navigation application, audio application, phone application, or settings application.

- Enhanced – The Enhanced configuration contains four static information zones, two interactive information display zones, and one interactive application display zone. The speedometer in the upper middle of the display, a navigation map or compass in located on the upper left, and a fuel level gauge and fuel range display on the right.

  Located on the left and right lower portion of the display are interactive information display zones.

  An interactive application display zone is located in the middle of the display. The application display zone allows access to the navigation application, audio application, phone application, or settings application.

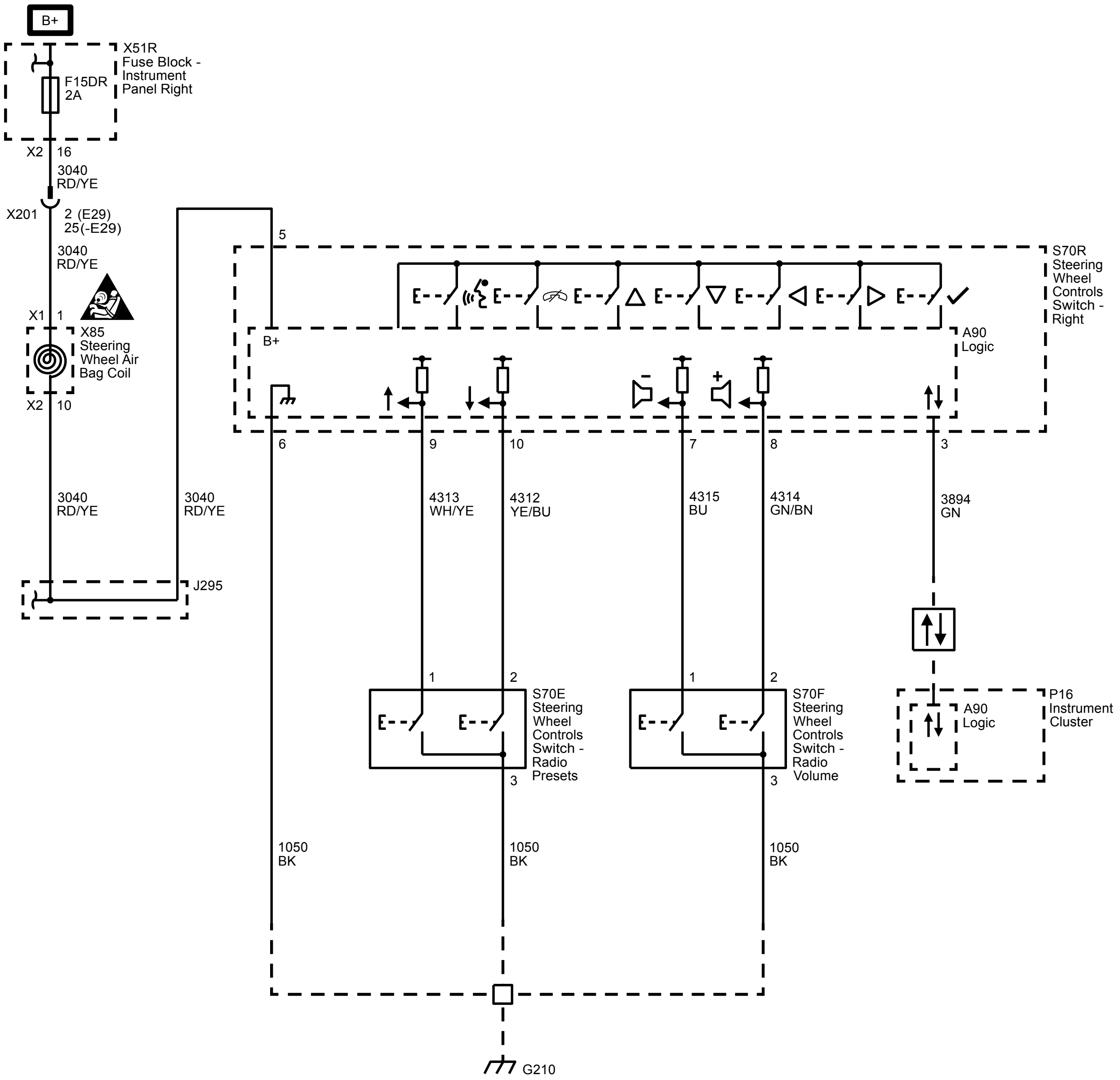
Driver Information and Entertainment

Secondary and Configurable Customer Controls

Schematic and Routing Diagrams

Steering Wheel Secondary/Configurable Control Schematics

Steering Wheel Radio Controls (UK3)

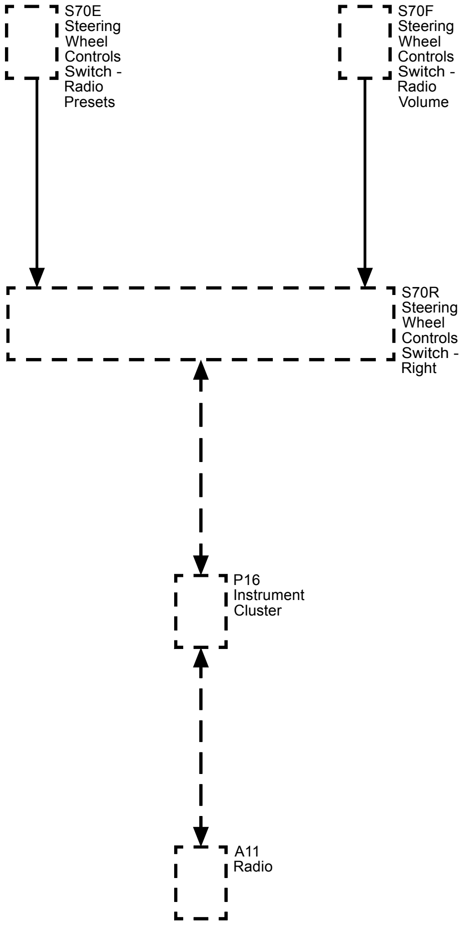


B+
X51R
Fuse Block - Instrument Panel Right
F15DR
2A
X2
16
3040
RD/YE
X201
2 (E29)
25(-E29)
3040
RD/YE
X1
1
X85
Steering Wheel Air Bag Coil
X2
10
3040
RD/YE
3040
RD/YE
J295
5
S70R
Steering Wheel Controls Switch - Right
B+
A90
Logic
6
9
10
7
8
3
4313
WH/YE
4312
YE/BU
4315
BU
4314
GN/BN
3894
GN
1
2
S70E
Steering Wheel Controls Switch - Radio Presets
3
1
2
S70F
Steering Wheel Controls Switch - Radio Volume
3
A90
Logic
P16
Instrument Cluster
1050
BK
1050
BK
1050
BK
G210

Description and Operation

Steering Wheel Controls Description and Operation

Secondary Controls Block Diagram


S70E Steering Wheel Controls Switch - Radio Presets
S70F Steering Wheel Controls Switch - Radio Volume
S70R Steering Wheel Controls Switch - Right
P16 Instrument Cluster
A11 Radio

The steering wheel control switches duplicate the function of the primary controls of the associated component, through a network of momentary contact switches.

The Steering Wheel Controls are divided into a right-hand set and left-hand set. The right-hand switch is connected to the IPC LIN serial data and provides input from the left-hand, left-hand rear, and right-hand rear switches

The right-hand switch controller consists of UP/DOWN/LEFT/RIGHT directional, center “select” , Push-to-Talk, and Mute buttons. The LEFT/RIGHT buttons navigate the display regions of the cluster. The UP/DOWN buttons navigate the menus. The right-hand rear switch consists of volume up and volume down buttons. The left-hand rear switch consists of favorite up and favorite down buttons.

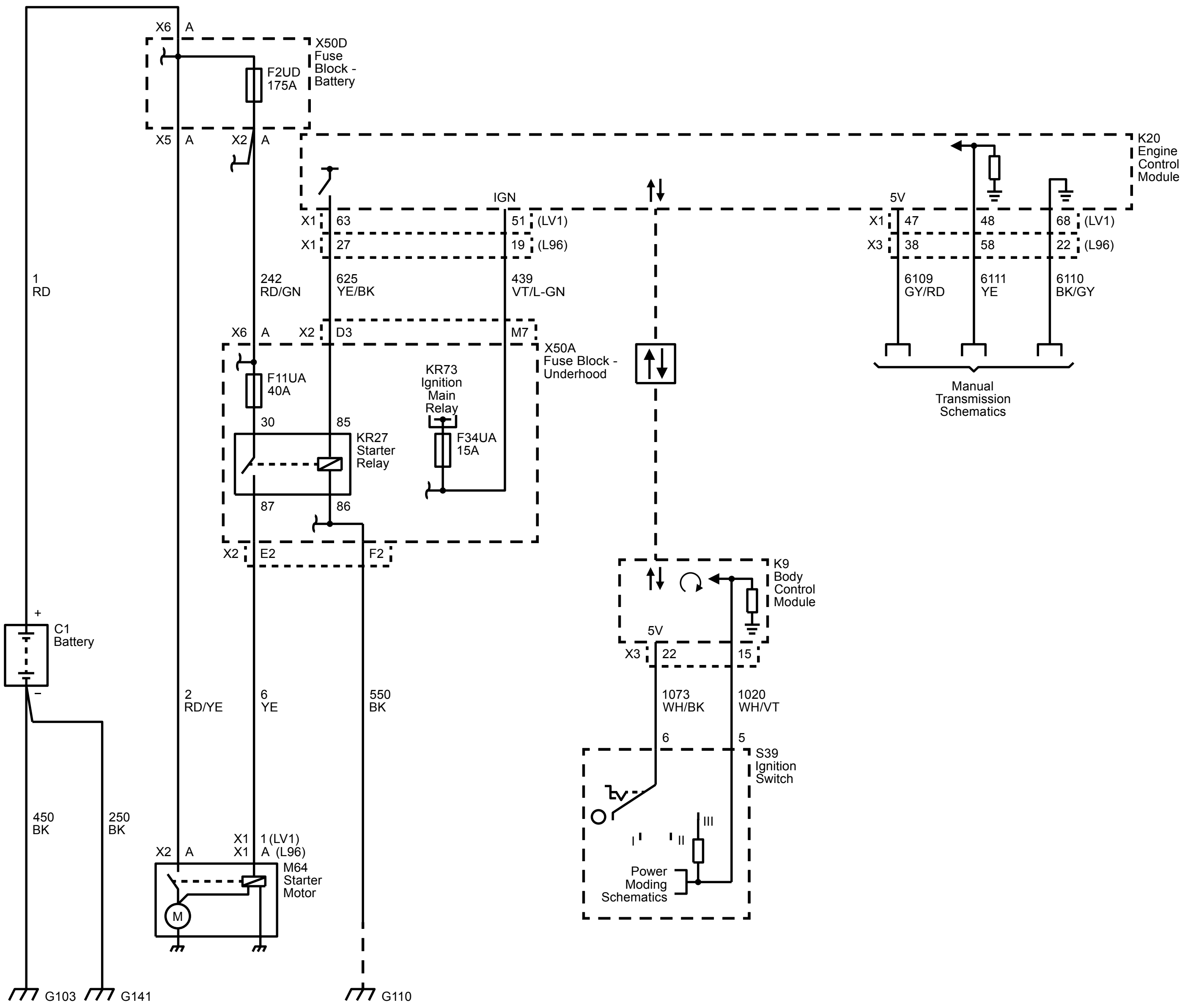
Engine/Propulsion

12 V Starting and Charging

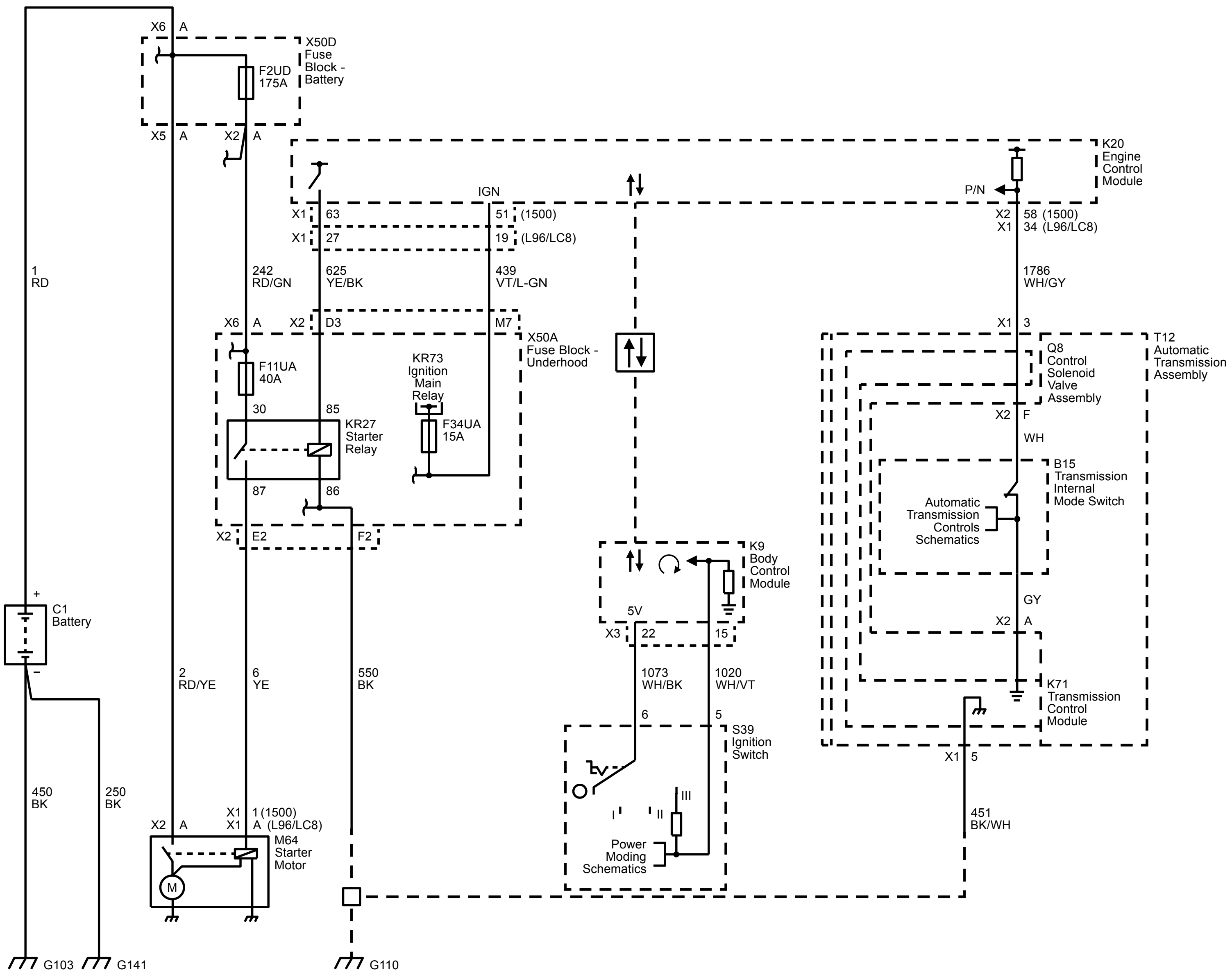
Schematic and Routing Diagrams

Starting and Charging Schematics

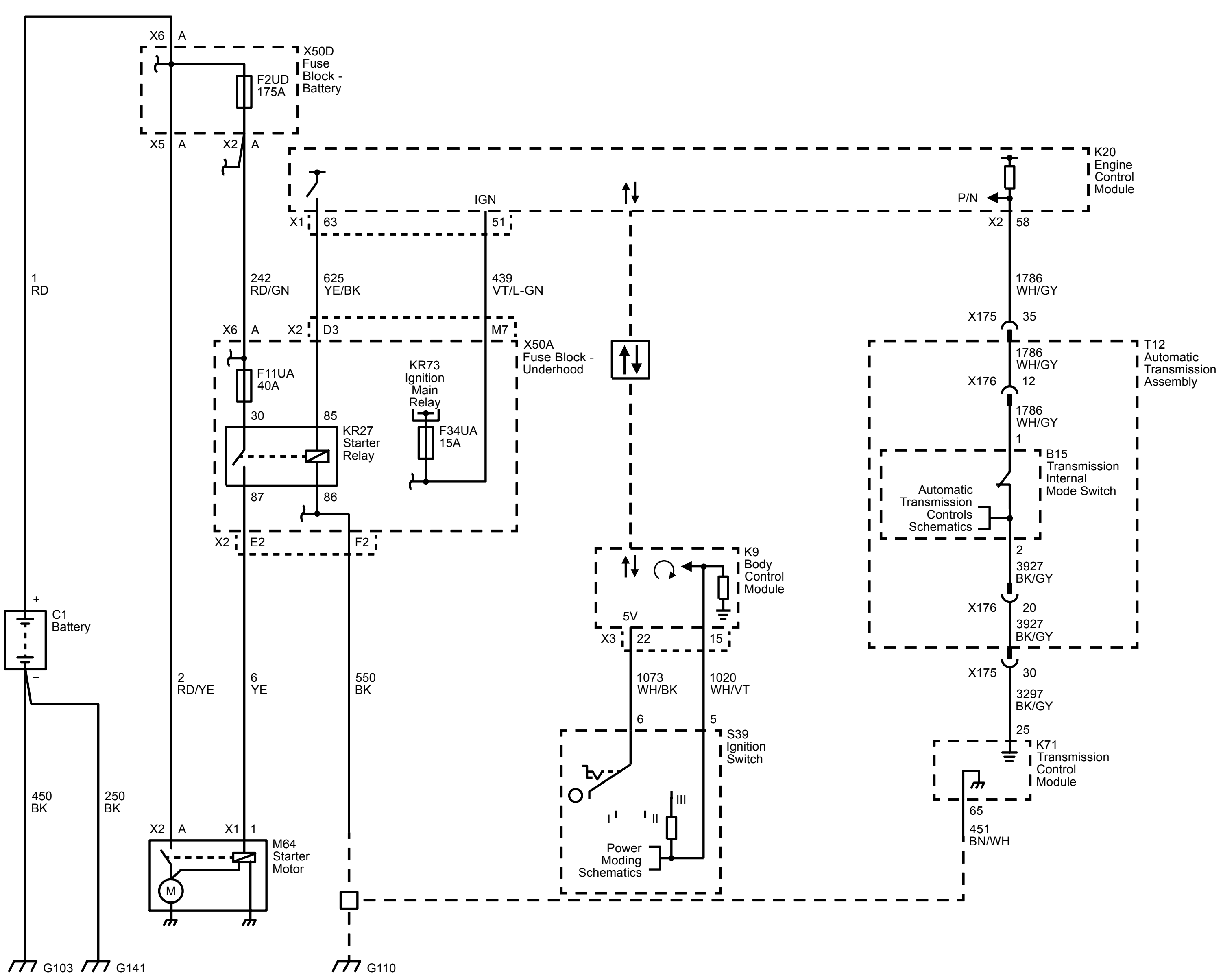
Starting - Manual Transmission (M2P, MQ7 or MXW)


X6 A
X50D Fuse Block - Battery
F2UD 175A
X5 A
X2 A
K20 Engine Control Module
IGN
5V
X1 63
51 (LV1)
X1 27
19 (L96)
X1 47
48
68 (LV1)
X3 38
58
22 (L96)
1 RD
242 RD/GN
625 YE/BK
439 VT/L-GN
6109 GY/RD
6111 YE
6110 BK/GY
X6 A
X2 D3
M7
X50A Fuse Block - Underhood
F11UA 40A
KR73 Ignition Main Relay
F34UA 15A
30
85
KR27 Starter Relay
87
86
X2 E2
F2
Manual Transmission Schematics
K9 Body Control Module
5V
X3 22
15
+
C1 Battery
–
2 RD/YE
6 YE
550 BK
1073 WH/BK
1020 WH/VT
6
5
S39 Ignition Switch
III
I
II
Power Moding Schematics
450 BK
250 BK
X2 A
X1 1 (LV1)
X1 A (L96)
M64 Starter Motor
M
G103
G141
G110

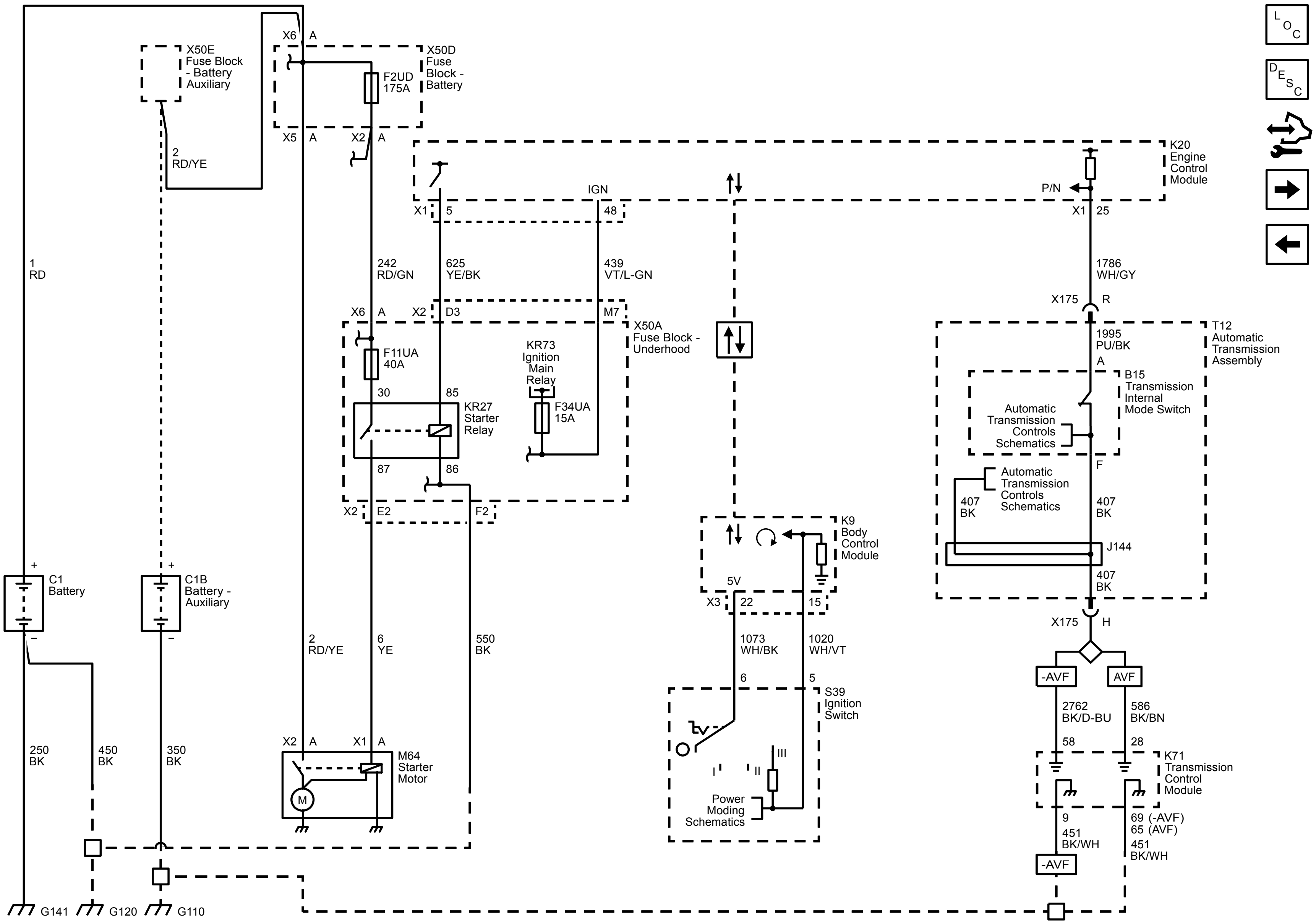
Starting - Automatic Transmission (MYC or MYD)


X6
A
X50D
Fuse
Block -
Battery
F2UD
175A
X5
A
X2
A
K20
Engine
Control
Module
IGN
P/N
X1
63
51
(1500)
X1
27
19
(L96/LC8)
X2
58 (1500)
X1
34 (L96/LC8)
1
RD
242
RD/GN
625
YE/BK
439
VT/L-GN
1786
WH/GY
X6
A
X2
D3
M7
X50A
Fuse Block -
Underhood
F11UA
40A
KR73
Ignition
Main
Relay
30
85
KR27
Starter
Relay
F34UA
15A
87
86
X2
E2
F2
X1
3
T12
Automatic
Transmission
Assembly
Q8
Control
Solenoid
Valve
Assembly
X2
F
WH
B15
Transmission
Internal
Mode Switch
Automatic
Transmission
Controls
Schematics
GY
X2
A
K71
Transmission
Control
Module
K9
Body
Control
Module
5V
X3
22
15
+
C1
Battery
-
2
RD/YE
6
YE
550
BK
1073
WH/BK
1020
WH/VT
6
5
S39
Ignition
Switch
III
I
II
Power
Moding
Schematics
X1
5
451
BK/WH
450
BK
250
BK
X2
A
X1
1 (1500)
X1
A (L96/LC8)
M64
Starter
Motor
M
G103
G141
G110

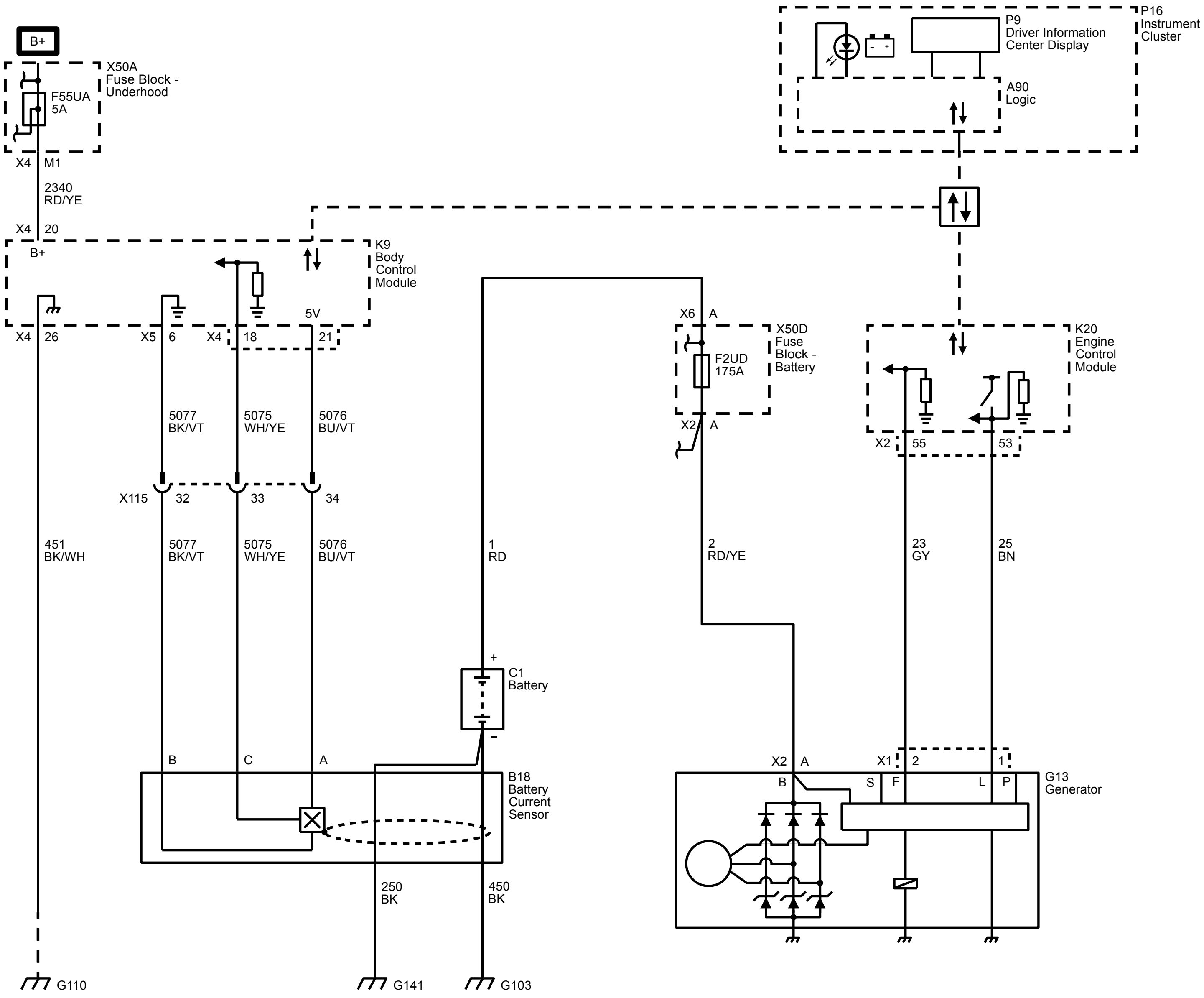
Starting - Automatic Transmission (M5U)


X6
A
X50D
Fuse
Block -
Battery
F2UD
175A
X5
A
X2
A
X1
63
51
IGN
K20
Engine
Control
Module
P/N
X2
58
1
RD
242
RD/GN
625
YE/BK
439
VT/L-GN
1786
WH/GY
X175
35
X6
A
X2
D3
M7
X50A
Fuse Block -
Underhood
T12
Automatic
Transmission
Assembly
1786
WH/GY
X176
12
F11UA
40A
KR73
Ignition
Main
Relay
1786
WH/GY
30
85
1
F34UA
15A
KR27
Starter
Relay
B15
Transmission
Internal
Mode Switch
Automatic
Transmission
Controls
Schematics
87
86
X2
E2
F2
K9
Body
Control
Module
2
3927
BK/GY
+
C1
Battery
-
5V
X3
22
15
X176
20
3927
BK/GY
X175
30
2
RD/YE
6
YE
550
BK
1073
WH/BK
1020
WH/VT
3297
BK/GY
6
5
25
S39
Ignition
Switch
K71
Transmission
Control
Module
450
BK
250
BK
III
I
II
65
451
BN/WH
X2
A
X1
1
M64
Starter
Motor
M
Power
Moding
Schematics
G103
G141
G110

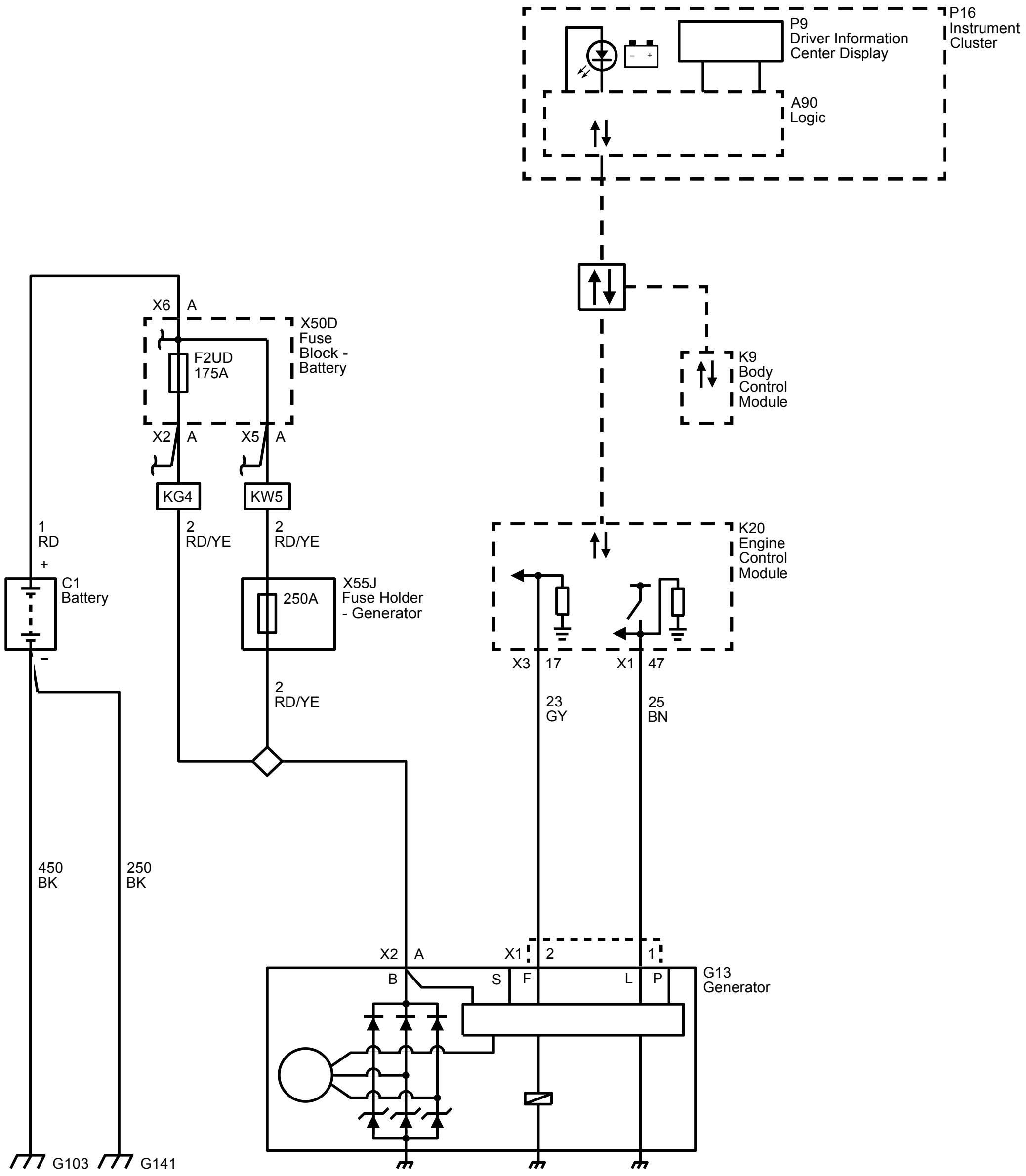
Starting - Automatic Transmission (MW7)


X50E
Fuse Block
- Battery
Auxiliary
X6
A
X50D
Fuse
Block -
Battery
F2UD
175A
X5
A
X2
A
2
RD/YE
K20
Engine
Control
Module
IGN
P/N
X1
5
48
X1
25
1
RD
242
RD/GN
625
YE/BK
439
VT/L-GN
1786
WH/GY
X175
R
X6
A
X2
D3
M7
X50A
Fuse Block -
Underhood
F11UA
40A
KR73
Ignition
Main
Relay
30
85
KR27
Starter
Relay
F34UA
15A
87
86
X2
E2
F2
T12
Automatic
Transmission
Assembly
1995
PU/BK
A
B15
Transmission
Internal
Mode Switch
Automatic
Transmission
Controls
Schematics
F
Automatic
Transmission
Controls
Schematics
407
BK
407
BK
J144
407
BK
X175
H
K9
Body
Control
Module
5V
X3
22
15
+
C1
Battery
+
C1B
Battery -
Auxiliary
−
−
2
RD/YE
6
YE
550
BK
1073
WH/BK
1020
WH/VT
6
5
S39
Ignition
Switch
III
I
II
Power
Moding
Schematics
-AVF
AVF
2762
BK/D-BU
586
BK/BN
58
28
K71
Transmission
Control
Module
9
451
BK/WH
69 (-AVF)
65 (AVF)
451
BK/WH
-AVF
250
BK
450
BK
350
BK
X2
A
X1
A
M64
Starter
Motor
M
G141
G120
G110

Charging (1500)

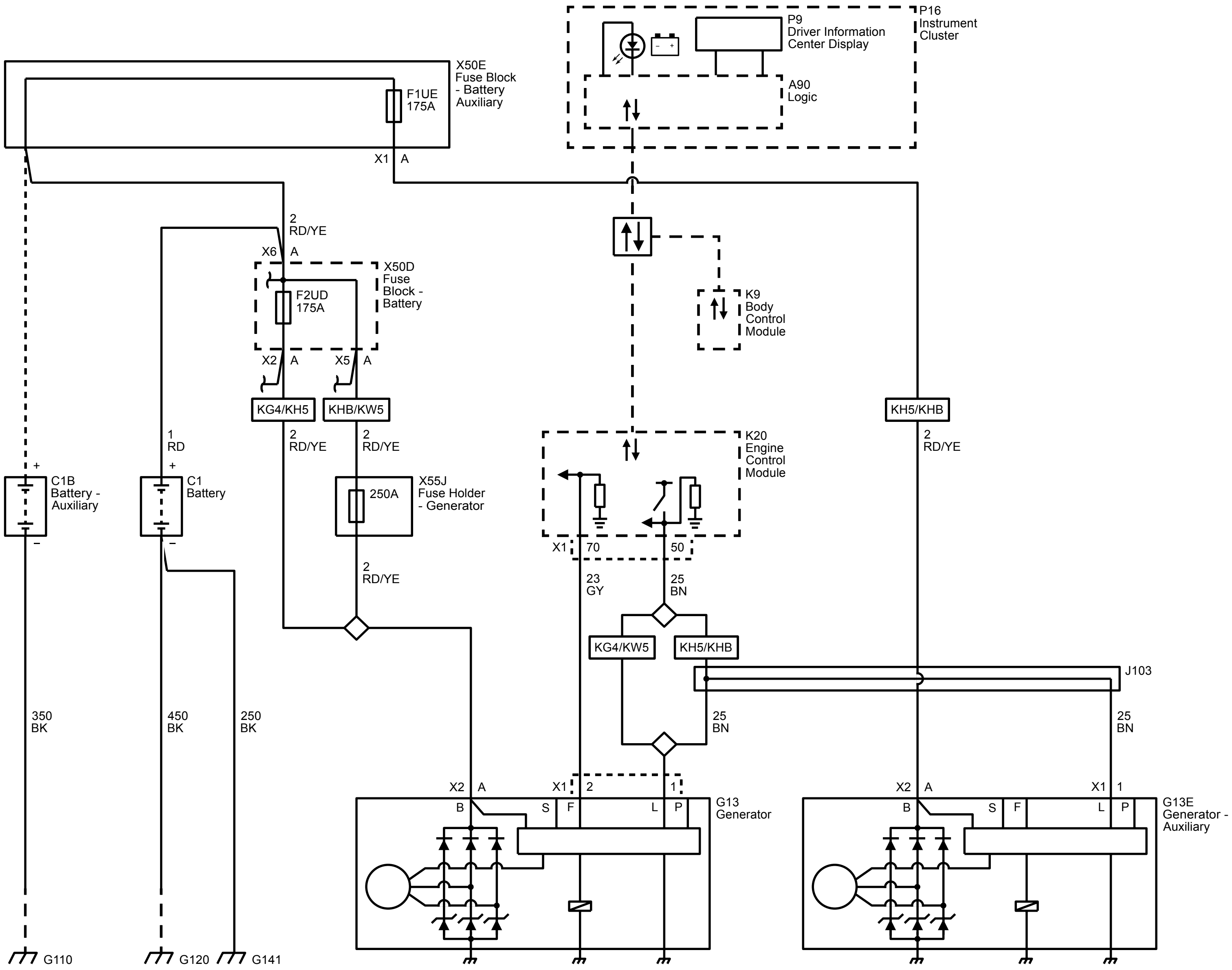

B+
X50A
Fuse Block -
Underhood
F55UA
5A
X4 M1
2340
RD/YE
X4 20
B+
K9
Body
Control
Module
5V
X4 26
X5 6
X4 18
21
5077
BK/VT
5075
WH/YE
5076
BU/VT
X115 32
33
34
451
BK/WH
5077
BK/VT
5075
WH/YE
5076
BU/VT
1
RD
+
C1
Battery
–
B
C
A
B18
Battery
Current
Sensor
250
BK
450
BK
G110
G141
G103
P16
Instrument
Cluster
P9
Driver Information
Center Display
A90
Logic
X6 A
X50D
Fuse
Block -
Battery
F2UD
175A
X2 A
2
RD/YE
K20
Engine
Control
Module
X2 55
53
23
GY
25
BN
X2 A
X1 2
1
B
S
F
L
P
G13
Generator

Charging (L96 or LC8)


P16
Instrument
Cluster
P9
Driver Information
Center Display
A90
Logic
K9
Body
Control
Module
K20
Engine
Control
Module
X6
A
X50D
Fuse
Block -
Battery
F2UD
175A
X2
A
X5
A
KG4
KW5
1
RD
+
C1
Battery
-
2
RD/YE
2
RD/YE
X55J
Fuse Holder
- Generator
250A
2
RD/YE
X3
17
X1
47
23
GY
25
BN
450
BK
250
BK
X2
A
X1
2
1
B
S
F
L
P
G13
Generator
G103
G141

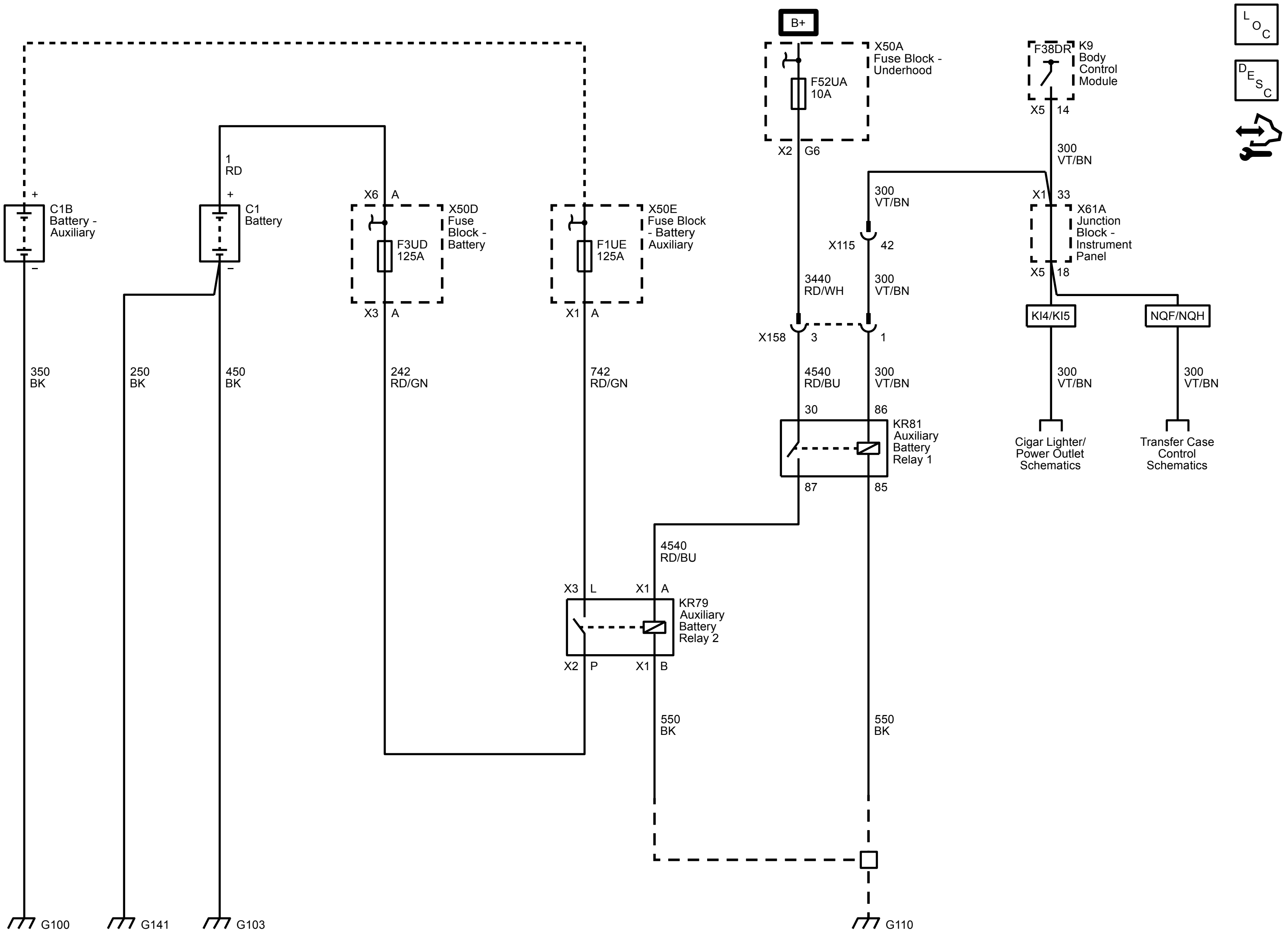
Charging (LML)

LOC
DESC


P16
Instrument
Cluster
P9
Driver Information
Center Display
A90
Logic
X50E
Fuse Block
- Battery
Auxiliary
F1UE
175A
X1
A
2
RD/YE
X6
A
X50D
Fuse
Block -
Battery
F2UD
175A
X2
A
X5
A
KG4/KH5
KHB/KW5
K9
Body
Control
Module
KH5/KHB
2
RD/YE
1
RD
+
C1B
Battery -
Auxiliary
-
+
C1
Battery
-
2
RD/YE
2
RD/YE
250A
X55J
Fuse Holder
- Generator
2
RD/YE
K20
Engine
Control
Module
X1
70
50
23
GY
25
BN
KG4/KW5
KH5/KHB
J103
350
BK
450
BK
250
BK
25
BN
25
BN
X2
A
X1
2
1
B
S
F
L
P
G13
Generator
X2
A
X1
1
B
S
F
L
P
G13E
Generator -
Auxiliary
G110
G120
G141

Auxiliary Battery Schematics

Auxiliary Battery Relays (K4B or K4D)



B+
X50A Fuse Block - Underhood
F52UA 10A
X2 G6
K9 Body Control Module
F38DR
X5 14
300 VT/BN
1 RD
+
C1B Battery - Auxiliary
C1 Battery
X6 A
X50D Fuse Block - Battery
F3UD 125A
X3 A
X50E Fuse Block - Battery Auxiliary
F1UE 125A
X1 A
X115 42
X1 33
X61A Junction Block - Instrument Panel
X5 18
3440 RD/WH
KI4/KI5
NQF/NQH
X158 3 1
350 BK
250 BK
450 BK
242 RD/GN
742 RD/GN
4540 RD/BU
30 86
KR81 Auxiliary Battery Relay 1
87 85
Cigar Lighter/ Power Outlet Schematics
Transfer Case Control Schematics
X3 L
X1 A
KR79 Auxiliary Battery Relay 2
X2 P
X1 B
550 BK
G100
G141
G103
G110
LOC
DESC

Description and Operation

Battery Description and Operation

Warning: Batteries produce explosive gases, contain corrosive acid, and supply levels of electrical current high enough to cause burns. Therefore, to reduce the risk of personal injury when working near a battery:

- **Always shield your eyes and avoid leaning over the battery whenever possible.**
- **Do not expose the battery to open flames or sparks.**
- **Do not allow the battery electrolyte to contact the eyes or the skin. Flush immediately and thoroughly any contacted areas with water and get medical help.**
- **Follow each step of the jump starting procedure in order.**
- **Treat both the booster and the discharged batteries carefully when using the jumper cables.**

Batteries that are no longer wanted must be disposed of by an approved battery recycler and must never be thrown in the trash or sent to a landfill.

Batteries that are not part of the vehicle itself, not the battery under the hood, must only be transported on public streets for business purposes via approved hazardous material transportation procedures.

Battery storage, charging and testing facilities in repair shops must meet various requirements for ventilation, safety equipment, material segregation, etc.

The maintenance free battery is standard. There are no vent plugs in the cover. The battery is completely sealed except for 2 small vent holes in the side. These vent holes allow the small amount of gas that is produced in the battery to escape.

The battery has 3 functions as a major source of energy:

- Engine cranking
- Voltage stabilizer
- Alternate source of energy with generator overload

Battery Low Start Vehicle Message

The body control module (BCM) monitors battery positive voltage to determine battery state of charge. If one or more of the BCM battery positive voltage terminals measure less than approximately 11.6V compared to the BCM ground circuits, this message will display and four chimes may sound. Start the vehicle immediately. If the vehicle is not started and the battery continues to discharge, the climate controls, heated seats, and audio systems will shut off and the vehicle may require a jump start. These systems will function again after the vehicle is started.

Battery Ratings

A battery has 2 ratings:

- Cold cranking amperage
- Amperage hours

When a battery is replaced use a battery with similar ratings. See battery specification label on the original battery.

Amperage Hours

The amperage hour rating tells you how much amperage is available when discharged evenly over a 20 hour period. The amperage hour rating is cumulative, so in order to know how many constant amperage the battery will output for 20 h, you have to divide the amperage hour rating by 20. Example: If a battery has an amperage hour rating of 74, dividing by 20 = 3.75. Such a battery can carry a 3.75 A load for 20 hours before dropping to 10.5 V. (10.5 V is the fully discharged level, at which point the battery needs to be recharged.) A battery with an amperage hour rating of 55 will carry a 2.75 A load for 20 hours before dropping to 10.5 V.

Cold Cranking Amperage

The cold cranking amperage is an indication of the ability of the battery to crank the engine at cold temperatures. The cold cranking amperage rating is the minimum amperage the battery must maintain for 30 seconds at −18°C (0°F) while maintaining at least 7.2 V. See battery label for the cold cranking amperage rating of this battery.

Charging System Description and Operation

Electrical Power Management Overview

The electrical power management system is designed to monitor and control the charging system and send diagnostic messages to alert the driver of possible problems with the battery and generator. This electrical power management system primarily utilizes existing on-board computer capability to maximize the effectiveness of the generator, to manage the load, improve battery state-of-charge and life, and minimize the system's impact on fuel economy. The electrical power management system performs 3 functions:

- It monitors the battery voltage and estimates the battery condition.
- It takes corrective actions by boosting idle speeds, and adjusting the regulated voltage.
- It performs diagnostics and driver notification.

The battery condition is estimated during ignition-off and during ignition-on. During ignition-off the state-of-charge of the battery is determined by measuring the open-circuit voltage. The state-of-charge is a function of the acid concentration and the internal resistance of the battery, and is estimated by reading the battery open circuit voltage when the battery has been at rest for several hours.

The state-of-charge can be used as a diagnostic tool to tell the customer or the dealer the condition of the battery. Throughout ignition-on, the algorithm continuously estimates state-of-charge based on adjusted net amp hours, battery capacity, initial state-of-charge, and temperature.

While running, the battery degree of discharge is primarily determined by a battery current sensor, which is integrated to obtain net amp hours.

In addition, the electrical power management function is designed to perform regulated voltage control to improve battery state-of-charge, battery life, and fuel economy. This is accomplished by using knowledge of the battery state-of-charge and temperature to set the charging voltage to an optimum battery voltage level for recharging without detriment to battery life.

The Charging System Description and Operation is divided into 3 sections. The first section describes the charging system components and their integration into the electrical power management. The second section describes charging system operation. The third section describes the instrument panel cluster operation of the charge indicator, driver information center messages, and voltmeter operation.

Charging System Components

Generator

The generator is a serviceable component. If there is a diagnosed failure of the generator it must be replaced as an assembly. The engine drive belt drives the generator. When the rotor is spun it induces an alternating current (AC) into the stator windings. The AC voltage is then sent through a series of diodes for rectification. The rectified voltage has been converted into a direct current (DC) for use by the vehicles electrical system to maintain electrical loads and the battery charge. The voltage regulator integral to the generator controls the output of the generator. It is not serviceable. The voltage regulator controls the amount of current provided to the rotor. If the generator has field control circuit failure, the generator defaults to an output voltage of 13.8 V.

Body Control Module (BCM)

The body control module (BCM) is a GMLAN device. It communicates with the engine control module (ECM) and the instrument panel cluster for electrical power management (electrical power management) operation. The BCM determines the output of the generator and sends the information to the ECM for control of the generator turn on signal circuit. It monitors the generator field duty cycle signal circuit information sent from the ECM for control of the generator. It monitors a battery current sensor, the battery positive voltage circuit, and estimated battery temperature to determine battery state of charge. The BCM performs idle boost.

Battery Current Sensor

The battery current sensor is a serviceable component that is connected to either the negative or positive battery cable at the battery. The battery current sensor is a 3-wire hall effect current sensor. The battery current sensor monitors the battery current. It directly inputs to the BCM. It creates a 5-volt pulse width modulation (PWM) signal of 128 Hz with a duty cycle of 0–100 percent. Normal duty cycle is between 5–95 percent. Between 0–5 percent and 95–100 percent are for diagnostic purposes.

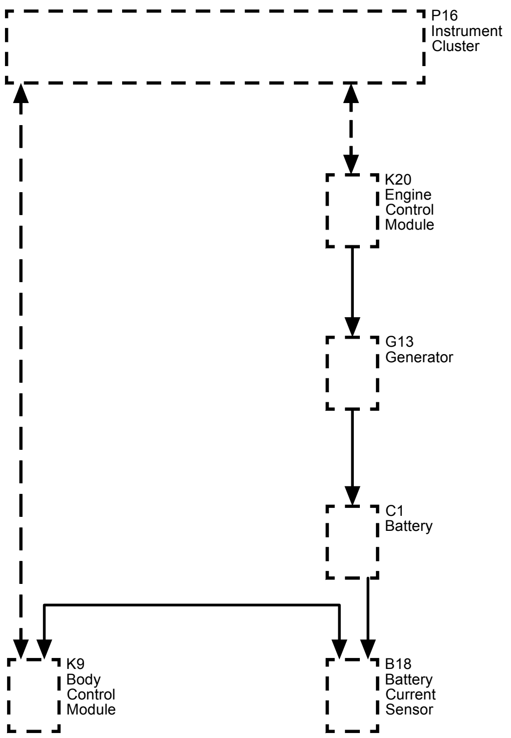
Engine Control Module (ECM)

When the engine is running, the generator turn-on signal is sent to the generator from the ECM, turning on the regulator. The generator's voltage regulator controls current to the rotor, thereby controlling the output voltage. The rotor current is proportional to the electrical pulse width supplied by the regulator. When the engine is started, the regulator senses generator rotation by detecting AC voltage at the stator through an internal wire. Once the engine is running, the regulator varies the field current by controlling the pulse width. This regulates the generator output voltage for proper battery charging and electrical system operation. The generator field duty terminal is connected internally to the voltage regulator and externally to the ECM. When the voltage regulator detects a charging system problem, it grounds this circuit to signal the ECM that a problem exists. The ECM monitors the generator field duty cycle signal circuit, and receives control decisions based on information from the BCM.

Instrument Panel Cluster

The instrument panel cluster provides the customer notification in case a concern with the charging system. There are 2 means of notification, a charge indicator and a driver information center message of SERVICE BATTERY CHARGING SYSTEM if equipped.

Charging System Block Diagram


P16
Instrument
Cluster
K20
Engine
Control
Module
G13
Generator
C1
Battery
K9
Body
Control
Module
B18
Battery
Current
Sensor

Charging System Operation

The purpose of the charging system is to maintain the battery charge and vehicle loads. There are 6 modes of operation and they include:

- Battery Sulfation Mode
- Charge Mode
- Fuel Economy Mode
- Headlamp Mode
- Start Up Mode
- Voltage Reduction Mode

The engine control module (ECM) controls the generator through the generator turn ON signal circuit. The ECM monitors the generator performance though the generator field duty cycle signal circuit. The signal is a pulse width modulation (PWM) signal of 128 Hz with a duty cycle of 0–100 percent. Normal duty cycle is between 5–95 percent. Between 0–5 percent and 95–100 percent are for diagnostic purposes. The following table shows the commanded duty cycle and output voltage of the generator:

Commanded Duty Cycle	Generator Output Voltage
10%	11 V
20%	11.56 V
30%	12.12 V
40%	12.68 V
50%	13.25 V
60%	13.81 V
70%	14.37 V

80%	14.94 V
90%	15.5 V

The generator provides a feedback signal of the generator voltage output through the generator field duty cycle signal circuit to the ECM. This information is sent to the body control module (BCM). The signal is PWM signal of 128 Hz with a duty cycle of 0–100 percent. Normal duty cycle is between 5–99 percent. Between 0–5 percent and 100 percent are for diagnostic purposes.

Battery Sulfation Mode

The BCM will enter this mode when the interpreted generator output voltage is less than 13.2 V for 45 minutes. When this condition exists the BCM will enter Charge Mode for 2–3 minutes. The BCM will then determine which mode to enter depending on voltage requirements.

Charge Mode

The BCM will enter Charge Mode when ever one of the following conditions are met.

- The wipers are ON for more than 3 seconds.
- GMLAN (Climate Control Voltage Boost Mode Request) is true, as sensed by the HVAC control head. High speed cooling fan, rear defogger and HVAC high speed blower operation can cause the BCM to enter the Charge Mode.
- The estimated battery temperature is less than 0°C (32°F).
- Battery State of Charge is less than 80 percent.
- Vehicle speed is greater than 145 km/h (90 mph)
- Current sensor fault exists.
- System voltage was determined to be below 12.56 V

When any one of these conditions is met, the system will set targeted generator output voltage to a charging voltage between 13.9–15.5 V, depending on the battery state of charge and estimated battery temperature.

Fuel Economy Mode

The BCM will enter Fuel Economy Mode when the estimated battery temperature is at least 0°C (32°F) but less than or equal to 80°C (176°F), the calculated battery current is less than 15 amperes and greater than −8 amperes, and the battery state-of-charge is greater than or equal to 80 percent. Its targeted generator output voltage is the open circuit voltage of the battery and can be between 12.5–13.1 V. The BCM will exit this mode and enter Charge Mode when any of the conditions described above are present.

Headlamp Mode

The BCM will enter Headlamp Mode when ever the headlamps are ON (high or low beams). Voltage will be regulated between 13.9–14.5 V.

Start Up Mode

When the engine is started the BCM sets a targeted generator output voltage of 14.5 V for 30 seconds.

Voltage Reduction Mode

The BCM will enter Voltage Reduction Mode when the calculated ambient air temperature is above 0°C (32°F). The calculated battery current is less than 1 ampere and greater than −7 amperes, and the generator field duty cycle is less than 99 percent. Its targeted generator output voltage is 12.9 V. The BCM will exit this mode once the criteria are met for Charge Mode.

Instrument Panel Cluster Operation

Charge Indicator Operation

The instrument panel cluster illuminates the charge indicator and displays a warning message in the driver information center if equipped, when the one or more of the following occurs:

- The engine control module (ECM) detects that the generator output is less than 11 V or greater than 16 V. The instrument panel cluster receives a GMLAN message from the ECM requesting illumination.
- The instrument panel cluster determines that the system voltage is less than 11 V or greater than 16 V for more than 30 seconds. The instrument panel cluster receives a GMLAN message from the body control module (BCM) indicating there is a system voltage range concern.
- The instrument panel cluster performs the displays test at the start of each ignition cycle. The indicator illuminates for approximately 3 seconds.

Display Message: BATTERY NOT CHARGING SERVICE CHARGING SYSTEM or SERVICE BATTERY CHARGING SYSTEM

The BCM and the ECM will send a serial data message to the driver information center for the BATTERY NOT CHARGING SERVICE CHARGING SYSTEM or SERVICE BATTERY CHARGING SYSTEM message to be displayed. It is commanded ON when a charging system DTC is a current DTC. The message is turned OFF when the conditions for clearing the DTC have been met.

Electrical Power Management Description and Operation (Diesel)

The electrical power management is used to monitor and control the charging system and alert the driver of possible problems within the charging system. The electrical power management system makes the most efficient use of the generator output, improves the battery state-of-charge, extends battery life, and manages system electrical loads.

The load shed operation is a means of reducing electrical loads during a low voltage or low battery state-of-charge condition.

The idle boost operation is a means of improving generator performance during a low voltage or low battery state-of-charge condition. Idle boost consists of three steps: idle boost 1, idle boost 2, and idle boost 3 (approximately 750, 900, and 1050 rpm respectively). Idle boost is activated in incremental steps, idle boost 1 must be active before idle boost 2 can be active.

Each electrical power management function, either idle boost or load shed, is discrete. No two functions are active at the same time. The criteria used by the body control module (BCM) to regulate electrical power management are outlined below:

Function	Battery Temperature Calculation	Battery Voltage Calculation	Amp-Hour Calculation	Action Taken
Idle Boost 1 Start	Less Than −15°C (5°F)	Less Than 13 V	—	First level Idle boost requested
Idle Boost 1 Start	—	—	Battery has a net loss greater than 0.6 AH	First level Idle boost requested
Idle Boost 1 Start	—	Less Than 10.9 V	—	First level Idle boost requested
Idle Boost 1 End	Greater Than −15°C (5°F)	Greater Than −12 V	Battery has a net loss less than 0.2 AH	First level Idle boost request cancelled
Load Shed 1 Start	—	—	Battery has a net loss of 4 AH	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 20% of their cycle
Load Shed 1 Start	—	Less Than 10.9 V	—	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 20% of their cycle
Load Shed 1 End	—	Greater Than 12 V	Battery has a net loss of less than 2 AH	Clear Load Shed 1
Idle Boost 2 Start	—	—	Battery has a net loss greater than 1.6 AH	Second level Idle boost requested
Idle Boost 2 Start	—	Less Than 10.9 V	—	Second level Idle boost requested
Idle Boost 2 End	—	Greater Than 12 V	Battery has a net loss less than 0.8 AH	Second level Idle boost request cancelled
Idle Boost 3 Start	—	—	Battery has a net loss of 10.0 AH	Third level Idle boost requested
Idle Boost 3 Start	—	Less Than 10.9 V	—	Third level Idle boost requested
Idle Boost 3 End	—	Greater Than 12 V	Battery has a net loss of less than 6.0 AH	Third level Idle boost request cancelled
Load Shed 2 Start	—	Less Than 10.9 V	Battery has a net loss greater than 12 AH	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 50% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC

Load Shed 2 Start	—	Less Than 10.9 V	—	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 50% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 2 End	—	Greater Than 12.6 V	Battery has a net loss of less than 10.5 AH	Clear Load Shed 2
Load Shed 3 Start	—	Less Than 11.9 V	Battery has a net loss greater than 20 AH	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 100% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 3 End	—	Greater Than 12.6 V	Battery has a net loss of less than 15 AH	Clear Load Shed 3

Electrical Power Management Description and Operation (Gasoline)

The electrical power management is used to monitor and control the charging system and alert the driver of possible problems within the charging system. The electrical power management system makes the most efficient use of the generator output, improves the battery state-of-charge, extends battery life, and manages system electrical loads.

The load shed operation is a means of reducing electrical loads during a low voltage or low battery state-of-charge condition.

The idle boost operation is a means of improving generator performance during a low voltage or low battery state-of-charge condition.

Each electrical power management function, either idle boost or load shed, is discrete. No two functions are active at the same time. Idle boost is activated in incremental steps, idle boost 1 must be active before idle boost 2 can be active. The criteria used by the body control module (BCM) to regulate electrical power management are outlined below:

Function	Battery Temperature Calculation	Battery Voltage Calculation	Amp-Hour Calculation	Action Taken
Idle Boost 1 Start	Less Than −15°C (5°F)	Less Than 13 V	—	First level Idle boost requested
Idle Boost 1 Start	—	—	Battery has a net loss greater than 0.6 AH	First level Idle boost requested
Idle Boost 1 Start	—	Less Than 10.9 V	—	First level Idle boost requested
Idle Boost 1 End	Greater Than −15°C (5°F)	Greater Than −12 V	Battery has a net loss less than 0.2 AH	First level Idle boost request cancelled
Load Shed 1 Start	—	—	Battery has a net loss of 4 AH	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 20% of their cycle
Load Shed 1 Start	—	Less Than 10.9 V	—	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 20% of their cycle
Load Shed 1 End	—	Greater Than 12 V	Battery has a net loss of less than 2 AH	Clear Load Shed 1
Idle Boost 2 Start	—	—	Battery has a net loss greater than 1.6 AH	Second level Idle boost requested
Idle Boost 2 Start	—	Less Than 10.9 V	—	Second level Idle boost requested
Idle Boost 2 End	—	Greater Than 12 V	Battery has a net loss less than 0.8 AH	Second level Idle boost request cancelled
Idle Boost 3 Start	—	—	Battery has a net loss of 10.0 AH	Third level Idle boost requested
Idle Boost 3 Start	—	Less Than 10.9 V	—	Third level Idle boost requested
Idle Boost 3 End	—	Greater Than 12 V	Battery has a net loss of less than 6.0 AH	Third level Idle boost request cancelled
Load Shed 2 Start	—	Less Than 10.9 V	Battery has a net loss greater than 12 AH	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 50% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC

Load Shed 2 Start	—	Less Than 10.9 V	—	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 50% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 2 End	—	Greater Than 12.6 V	Battery has a net loss of less than 10.5 AH	Clear Load Shed 2
Load Shed 3 Start	—	Less Than 11.9 V	Battery has a net loss greater than 20 AH	Rear Defrost, Heated Mirrors, Heated Seats cycled OFF for 100% of their cycle. The BATTERY SAVER ACTIVE message will be displayed on the DIC
Load Shed 3 End	—	Greater Than 12.6 V	Battery has a net loss of less than 15 AH	Clear Load Shed 3

Starting System Description and Operation

The starter motors are non-repairable starter motors. They have pole pieces that are arranged around the armature. Both solenoid windings are energized. The pull-in winding circuit is completed to the ground through the starter motor. The windings work together magnetically to pull and hold in the plunger. The plunger moves the shift lever. This action causes the starter drive assembly to rotate on the armature shaft spline as it engages with the flywheel ring gear on the engine. Moving at the same time, the plunger also closes the solenoid switch contacts in the starter solenoid. Full battery voltage is applied directly to the starter motor and it cranks the engine.

As soon as the solenoid switch contacts close, current stops flowing thorough the pull-in winding because battery voltage is applied to both ends of the windings. The hold-in winding remains energized. Its magnetic field is strong enough to hold the plunger, shift lever, starter drive assembly, and solenoid switch contacts in place to continue cranking the engine. When the engine starts, pinion overrun protects the armature from excessive speed until the switch is opened.

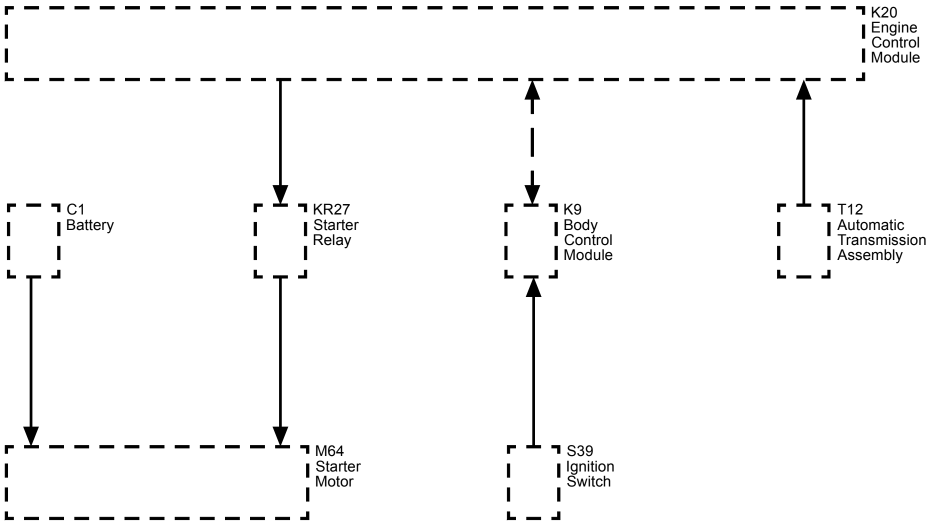
When the ignition switch is released from the START position, the START relay opens and battery voltage is removed from the starter solenoid S terminal. Current flows from the motor contacts through both windings to the ground at the end of the hold-in winding. However, the direction of the current flow through the pull-in winding is now opposite the direction of the current flow when the winding was first energized.

The magnetic fields of the pull-in and hold-in windings now oppose one another. This action of the windings, along with the help of the return spring, causes the starter drive assembly to disengage and the solenoid switch contacts to open simultaneously. As soon as the contacts open, the starter circuit is turned off.

Circuit Description (Key Start)

When the ignition switch is placed in the Start position, a discrete signal is supplied to the body control module (BCM) notifying it that the ignition is in the Start position. The BCM then sends a message to the engine control module (ECM) notifying it that CRANK has been requested. The ECM verifies that the transmission is in Park or Neutral. If it is, the ECM then supplies 12 V to the control circuit of the crank relay. When this occurs, battery positive voltage is supplied through the switch side of the crank relay to the S terminal of the starter solenoid.

Starting System Block Diagram



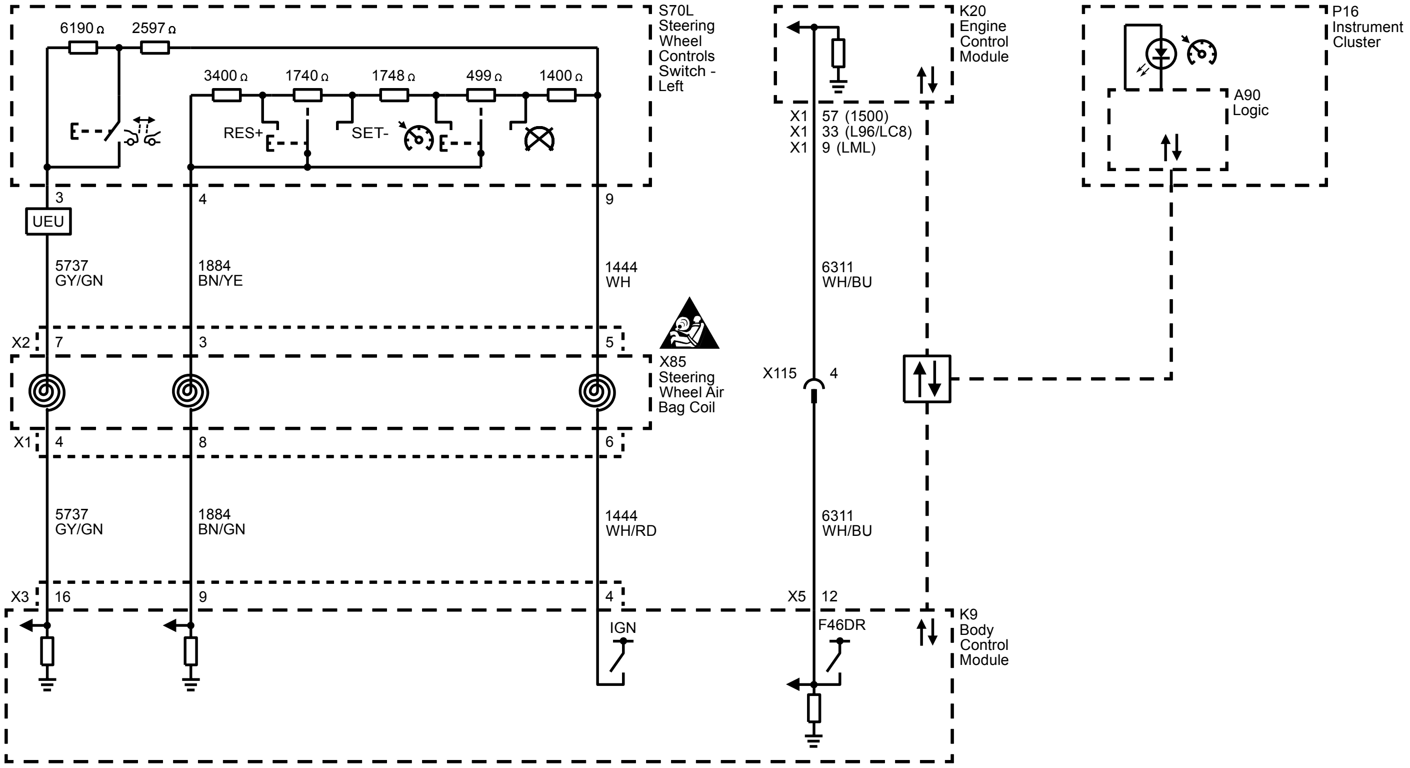
Engine/Propulsion

Cruise Control

Schematic and Routing Diagrams

Cruise Control Schematics

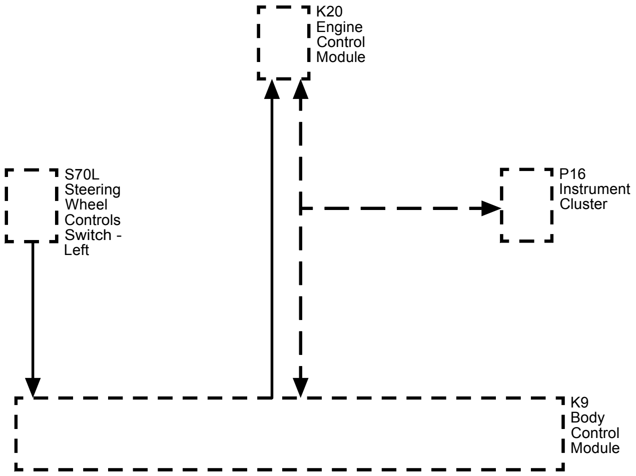
Cruise Control


S70L Steering Wheel Controls Switch - Left
6190 Ω
2597 Ω
3400 Ω
1740 Ω
1748 Ω
499 Ω
1400 Ω
RES+
SET-
3
4
9
UEU
5737 GY/GN
1884 BN/YE
1444 WH
X2
7
3
5
X85 Steering Wheel Air Bag Coil
X1
4
8
6
5737 GY/GN
1884 BN/GN
1444 WH/RD
X3
16
9
4
IGN
K20 Engine Control Module
X1 57 (1500)
X1 33 (L96/LC8)
X1 9 (LML)
6311 WH/BU
X115
4
6311 WH/BU
X5
12
F46DR
K9 Body Control Module
P16 Instrument Cluster
A90 Logic

Description and Operation

Cruise Control Description and Operation

Cruise Control System Block Diagram



Cruise control is a speed control system that maintains a desired vehicle speed under normal driving conditions at speeds above 40 km/h (25 mph). Steep grades may cause variations in the selected vehicle speeds.

The following are the main components of the Cruise Control System:

- The accelerator pedal
- The brake pedal position (BPP) sensor
- The body control module (BCM)
- The cruise on/off switch
- The cruise control cancel switch
- The + RES switch (equivalent to resume/accel switch)
- The − SET switch (equivalent to set/coast switch)
- The engine control module (ECM)
- The throttle actuator control (TAC) motor (gasoline engines only)
- The vehicle speed sensor

The body control module (BCM) monitors the signal circuit of the cruise control switches, which are located on the steering wheel. The BCM relays the cruise control switch status to the engine control module (ECM) via the serial data circuit. The ECM uses the status of the cruise control switch to determine when to capture and maintain the vehicle speed. The ECM monitors the vehicle speed signal circuit in order to determine the desired vehicle speed.

Voltage is supplied to the cruise control switch via the steering wheel control switch reference voltage circuit supplied by the BCM. The cruise control function switches are arranged in a resistive ladder design, with each cruise control function switch having a different resistance value. The BCM detects a specific voltage value that is associated with the cruise control function switch being activated. The BCM sends a serial data message to the ECM indicating that the on/off switch is active. Similarly, when the normally open + RES switch or the normally open − SET switch are pressed, the switch closes and the BCM detects the predetermined voltage signal on the cruise control resume/accel and set/coast switch signal circuit. The BCM sends a serial data message to the ECM indicating that the + RES switch or the − SET switch is active.

Cruise Control Engaged

The Cruise Control System will engage and adjust vehicle speeds, based on the activation of the following cruise control switches, which are located on the steering wheel:

- On/Off

- + RES
- − SET

To engage the Cruise Control System, ensure that the vehicle speed is above 40.2 km/h (25 mph), turn the cruise On/Off switch ON and momentarily press the − SET switch. The ECM will engage the Cruise Control System and record the vehicle speed. The ECM sends a serial data message to the instrument panel cluster (IPC) in order to illuminate the Cruise Engaged indicator in the IPC. Refer to the vehicle owner's manual for the location and operation of the cruise control On/Off indicators and driver information center (DIC) messages.

Pressing the accelerator pedal while the Cruise Control System is engaged, allows the driver to override the Cruise Control System in order to accelerate the vehicle beyond the current set vehicle speed. When the accelerator pedal is released, the vehicle will decelerate and resume the current set vehicle speed.

The driver can also override the current set vehicle speed via the − SET switch and the + RES switch. When the Cruise Control System is engaged, pressing and holding the − SET switch will allow the vehicle to decelerate from the current set vehicle speed without deactivating the Cruise Control System. When the − SET switch is released, the ECM will record the vehicle speed and maintain the vehicle speed as the new set vehicle speed. When the Cruise Control System is engaged, momentarily pressing the − SET switch will allow the vehicle to decelerate at a vehicle specific calibratable increment, commonly 1.6 km/h (1 mph), each time that the − SET is momentarily pressed, with a minimum vehicle speed of 38 km/h (24 mph). Refer to the vehicle Owner's Manual for more information.

Pressing and holding the + RES switch, when the Cruise Control System is engaged, will allow the vehicle to accelerate to a greater vehicle speed than the current set vehicle speed. When the + RES switch is released, the ECM will record the vehicle speed and maintain the vehicle speed as the new set vehicle speed. When the Cruise Control System is engaged, momentarily pressing the + RES switch will allow the vehicle to accelerate at a vehicle specific calibratable increment, commonly 1.6 km/h (1 mph), each time that the + RES switch is momentarily pressed. Momentarily activating the + RES switch will recall the previous vehicle speed, after the cruise control system has been disengaged by pressing the brake pedal, or CANCEL switch. Refer to the vehicle Owner's Manual for more information.

Cruise Control Disengaged

The engine control module (ECM) disengages the cruise control operation based on the signals from the following switches:

- The brake pedal position (BPP) sensor
- The On/Off switch
- The cruise control cancel switch

The Cruise Control System will disengage when the brake pedal is applied. The body control module (BCM) monitors the BPP sensor via the BPP sensor signal circuit as the voltage signal increases while the pedal is further applied. The ECM monitors the BPP signal through a discrete input and a serial data message signal from the BCM indicating the brake status. When either signal indicates the brake pedal is applied, the ECM will disengage the cruise control system.

The Cruise Control System will also disengage when the cruise control on/off switch is switched OFF, or the cruise control cancel switch is activated. The body control module (BCM) determines when the cruise control cancel switch is activated. When the normally open cancel switch is closed, the BCM detects the predetermined voltage signal on the cruise control function switch circuit. The vehicle speed stored in the memory of the engine control module will be erased when the cruise control On/Off switch is turned OFF, or the ignition switch is turned OFF. The BCM sends a serial data message to the ECM in order to disengage the cruise control system. When the Cruise Control System has been disengaged, the ECM sends a serial message to the instrument panel cluster (IPC) in order to turn OFF the Cruise Engaged indicator.

Every time the Cruise Control System is disengaged, the ECM will keep track of the reason for system disengagement. The last 8 disengagement reasons will be recorded within the ECM memory. The scan tool will display the last 8 Cruise Disengage History parameters, in which one out of approximately 50 possible reasons will be displayed in each of these 8 parameters. For the disengagement reason to be displayed within the scan tool parameter the Cruise Control System is active and disengagement is requested.

When engagement of the system is requested but an engagement inhibit is present, the most recent inhibit reason is recorded in the ECM history. The scan tool will display the most recent inhibit reason, in which one out of approximately 50 possible reasons will be displayed.

Cruise Control Inhibited

The engine control module (ECM) inhibits the cruise control operation when any of the following conditions exist:

- The ECM has not detected a brake pedal activation from the body control module (BCM) this ignition cycle.
- A Cruise Control System DTC has been set.
- The vehicle speed is less than 38.6 km/h (24 mph).
- The vehicle speed is too high.
- The vehicle is in PARK, REVERSE, NEUTRAL, or 1st gear.
- The engine RPM is low.
- The engine RPM is high.
- The system voltage is not between 9 volts and 16 volts.
- The Antilock Brake System (ABS)/Traction Control System (TCS) is active for more than a calibratable time (typically 0.3 to 0.7 seconds).

Cruise Control Inhibit Reasons

This is a general list of inhibit reasons. Not every inhibit reason is applicable to all vehicles. Refer to the scan tool inhibit reason list for the last 8 reasons that have been recorded during the current ignition cycle.

Scan Tool Name	Description	Long Description
ACC BRAKE INOP	Adaptive Cruise Control Automatic Braking Failed	Adaptive Cruise Control Automatic Braking Inoperative

ACC DATA	Serial data fault for Adaptive Cruise Control Throttle Control and Brake Control signals sent by Adaptive Cruise Control module	Adaptive Cruise Control Module serial data fault is active or communication has been lost between ACC module and ECM.
ACC INHIBIT	Adaptive Cruise Control Inhibited	Adaptive Cruise Control Inhibited
ACC OPTION	Adaptive Cruise Control option mismatch	Cruise control type (adaptive cruise or conventional cruise) mismatched between ECM and BCM.
ACCEL RATE	High acceleration	Vehicle acceleration rate is too high.
Accel Time	Rate Limiting Fault	Cruise torque request rate limiting active too long
APP OVERRIDE	Pedal greater than cruise (override)	Driver has overridden cruise control set speed with accelerator pedal for greater than an allowable time.
Auto Brk Data	Automatic Braking Engine Torque Request Signal Communication Malfunction	ECM to EBCM serial data fault is active or communication has been lost between ECM and EBCM.
AXLE RANGE	Rear Axle Low	Rear axle in low range
BPP DATA	DTC P0703 active or maximum time elapsed without receiving valid Brake Pedal Position signal.	Serial data fault is active or communication has been lost with module sending brake pedal apply state
BPP DTC	Brake Pedal Position signal invalid	Brake Pedal Apply Circuit fault has been detected.
BPP Not Learned	Brake Apply Sensor Home Position Not Learned	Brake Pedal Position Sensor Released Position Not Learned.
BRAKE	Brake pedal apply	Brake Pedal was applied.
Brk Ped Press	Brake Pedal Driver Applied Pressure Detected	A Brake Pedal Apply has been detected based on brake pedal pressure as measured by the EBCM.
Calc Eng Torque	Calculated Torque	Engine torque calculation is incorrect.
CANCEL	Cancel switch active	Cancel Switch was depressed.
CLUTCH	Clutch switch active	Clutch Pedal was applied.
COAST DISENGAGE	Coast disengage	Cruise control is in coast mode with the Set/Coast switch depressed and is requesting no throttle
COAST SPEED LOW	Coast below low speed inhibit	Set / Coast switch was depressed. Vehicle slowed below minimum cruise operating speed.
Cruise Brk Inop	Brake System Malfunction	EBCM has detected a failure that does not allow automatic braking to be performed.
CRUISE S/W	Sequence of completion checks	Cruise control software execution error has occurred.
CRUISE SW DATA	Serial data fault (Cruise switch serial communication fault)	Cruise switch serial data fault is active or communication has been lost with module sending cruise switch states
CRUISE SW. OFF	On/Off switch in Off state	Cruise On/Off switch turned Off
DECEL RATE	High deceleration	Vehicle deceleration rate is too high.
DLC OVERRIDE	ALDL	Scan Tool plugged into ALDL connector

DTC SET	Malfunction in PCM/ECM (DTC active)	DTC is active or in history that inhibits cruise control operation.
D WHL SPD HI	Driven Whl Spd Greater (wheel slip detection)	Driven wheel speed greater than Non Driven wheel speed (slip detection)
D WHL SPD LOW	Un-driven Whl speed Greater	Non Driven wheel speed greater than driven wheel speed
ECM INHIBIT	PCM/ECM inhibit (RAM corruption)	ECM internal communication error
ECM RESET	ECM Running Reset	ECM Running Reset occurred
ECT OVERTEMP	Engine metal overtemp active	Engine over temperature. Overheated.
ENG RUN TIME	Engine run time not elapsed	Engine has not been running long enough, typically five seconds.
ENGINE SPEED	Engine speed too low or too high	Engine RPM too low (near stall) or too high (near engine RPM fuel shutoff).
FIRST GEAR	1st Gear	Transmission is engaged in 1st gear
HIGH SPEED	Vehicle speed exceeds high speed threshold	Vehicle speed has exceeded maximum cruise operating speed
HIGH VOLTAGE	Voltage above high voltage threshold	Ignition Voltage High at ECM (typically 18 volts)
ILLEGAL MODE	Illegal cruise mode	Cruise control mode is incorrect based on switch states.
LOST FWD GEAR	Transmission in neutral. Reverse or park	Gear selector not in forward gear
LOW SPEED	Vehicle speed drops below low speed threshold	Vehicle speed dropped below the cruise control minimum operating speed. May be due to hilly terrain and low vehicle speed. Manual transmission gear selection and engine torque may contribute to this disengagement reason.
LOW VOLTAGE	Voltage below low voltage threshold	Ignition Voltage Low at ECM (typically 9 volts)
MEMORY DTC	Memory Failure	Control module memory failure detected.
MPH LIMIT	MPH Limited Fuel (Vehicle overspeed fuel cut-off active)	Vehicle overspeed protection active with fuel cut off active
M/T Gear Changed	Manual transmission out of gear with no clutch pedal apply	Manual transmission shifted to Neutral without clutch pedal being applied.
NONE	None	This disengagement reason may be displayed after a dead battery repair or module replacement.
OVER SET SPEED	Over schedule	Vehicle speed has exceeded driver selected set speed by more than an allowable amount. This may occur while driving down a significant grade or driver overriding cruise while performing a passing maneuver.
PARK BRAKE	Park Brake Switch signal Active	Parking Brake Applied

PEDAL INITIALIZE	Brake before cruise	The brake pedal has not been seen as applied prior to driver request to engage cruise with set switch. A brake pedal apply must be seen before allowing cruise engagement during each key cycle. On a vehicle equipped with a manual transmission, a clutch pedal apply may satisfy the brake pedal apply criteria.
PTO ACTIVE	Power Take Off Active	Power Take Off is active.
Ram DTC	Processor Integrity Fault (Ram corruption)	ECM software error has occurred
RPM LIMIT	Injectors Disabled (Engine overspeed fuel cut-off active)	Engine RPM limiter active with fuel cut off active.
S/C ON SPEED HI	Over schedule tap-down	Set/Coast switch selected, vehicle speed is above set speed and does not decrease. May be due to traveling down hill
SIMUL S/C-R/A	SET and RESUME switches simultaneously active	Set/Coast and Resume Accelerate switches pressed simultaneously
SL/W Sys On	Speed Limiter / Warning On/Off switch turned on	Driver has turned on the Speed Limiter/Warning on/off switch. Cruise is disabled / inhibited and cruise on/off switch will be set to OFF.
SW. INVALID	Analog cruise switch input out of range	Cruise switch voltage signal in invalid range
TAC INHIBIT	ETC prevents cruise operation	Electronic Throttle Control has detected a failure in the throttle control hardware
TCS	Traction control active	Traction Control was Active
TRANS DTC	Trans Gear Fault	Transmission DTC is active or in history that inhibits cruise control operation
UNDER SET SPEED	Under schedule	Vehicle speed is below cruise control set speed by more than an allowable amount
VSES	Vehicle stability active	Vehicle Stability Control was active
4WD Low	4WD Low	Transfer case in low range

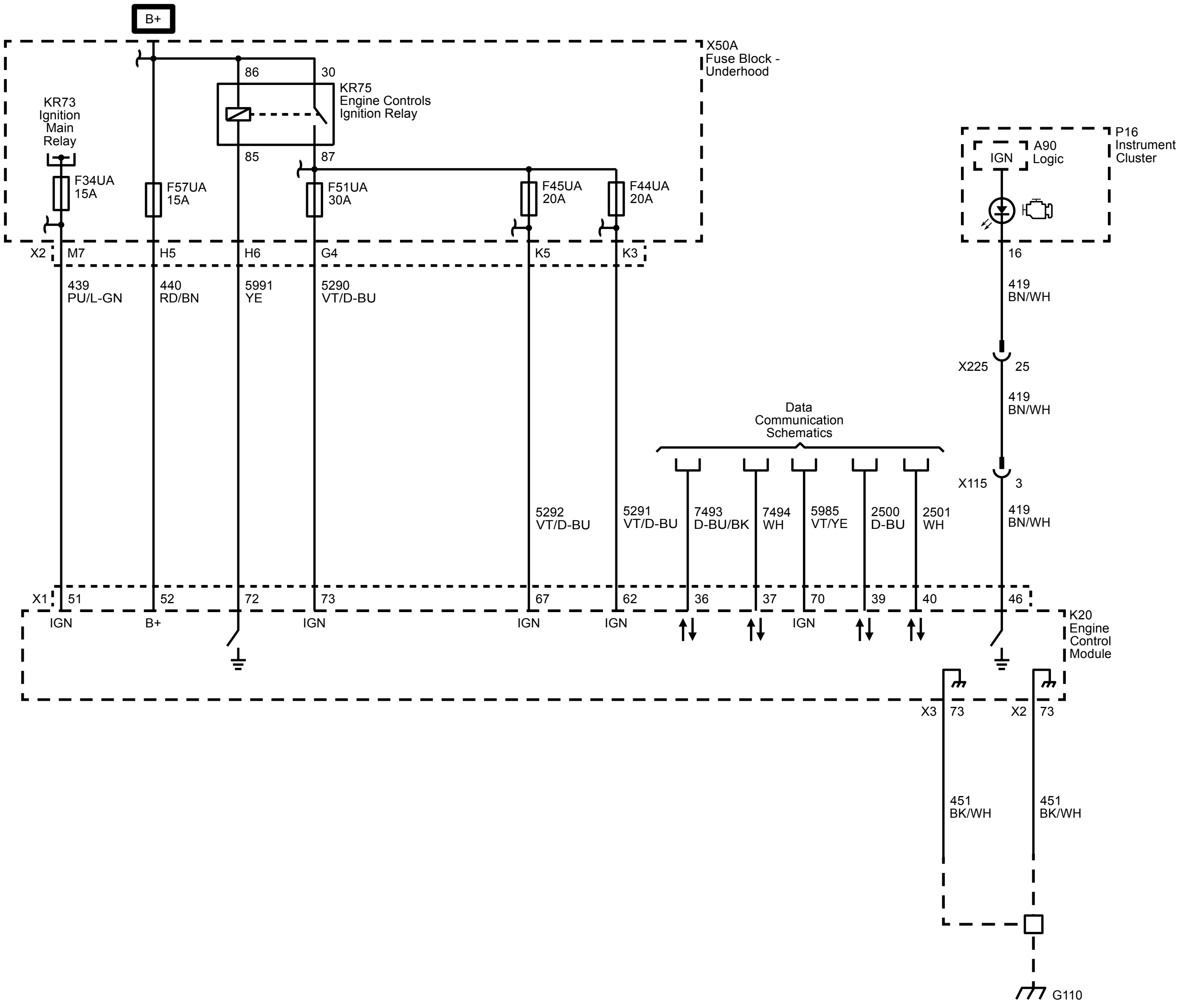
Engine/Propulsion

Engine Controls and Fuel - 4.3L (LV1 LV3)

Schematic and Routing Diagrams

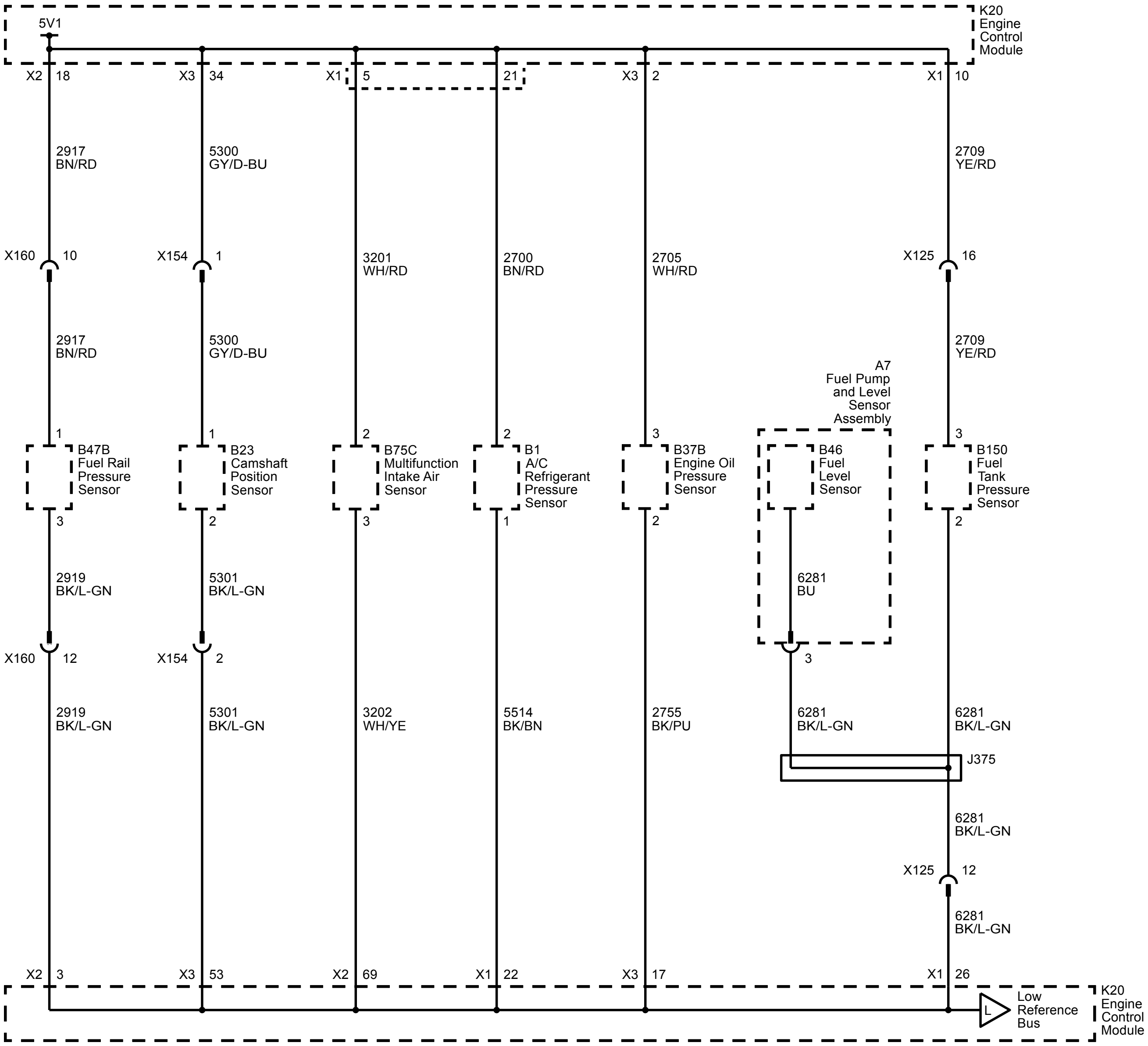
Engine Controls Schematics

Power, Ground, Serial Data and MIL



B+
X50A
Fuse Block -
Underhood
86
30
KR75
Engine Controls
Ignition Relay
KR73
Ignition
Main
Relay
85
87
F34UA
15A
F57UA
15A
F51UA
30A
F45UA
20A
F44UA
20A
X2
M7
H5
H6
G4
K5
K3
439
PU/L-GN
440
RD/BN
5991
YE
5290
VT/D-BU
P16
Instrument
Cluster
A90
Logic
IGN
16
419
BN/WH
X225
25
419
BN/WH
Data
Communication
Schematics
X115
3
5292
VT/D-BU
5291
VT/D-BU
7493
D-BU/BK
7494
WH
5985
VT/YE
2500
D-BU
2501
WH
419
BN/WH
X1
51
52
72
73
67
62
36
37
70
39
40
46
IGN
B+
IGN
IGN
IGN
IGN
K20
Engine
Control
Module
X3
73
X2
73
451
BK/WH
451
BK/WH
G110

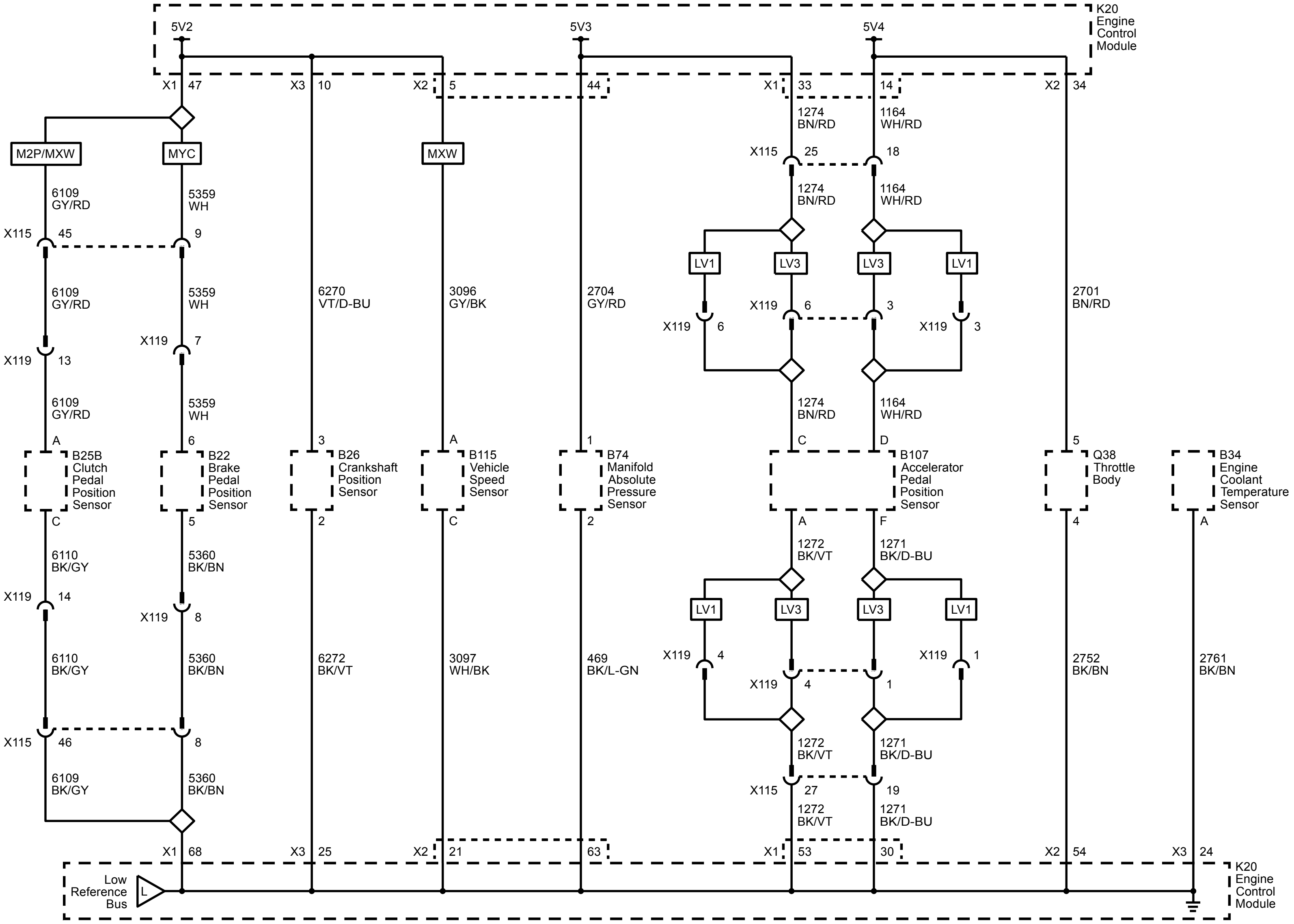
5V1 and Low Reference Bus (1 of 2)

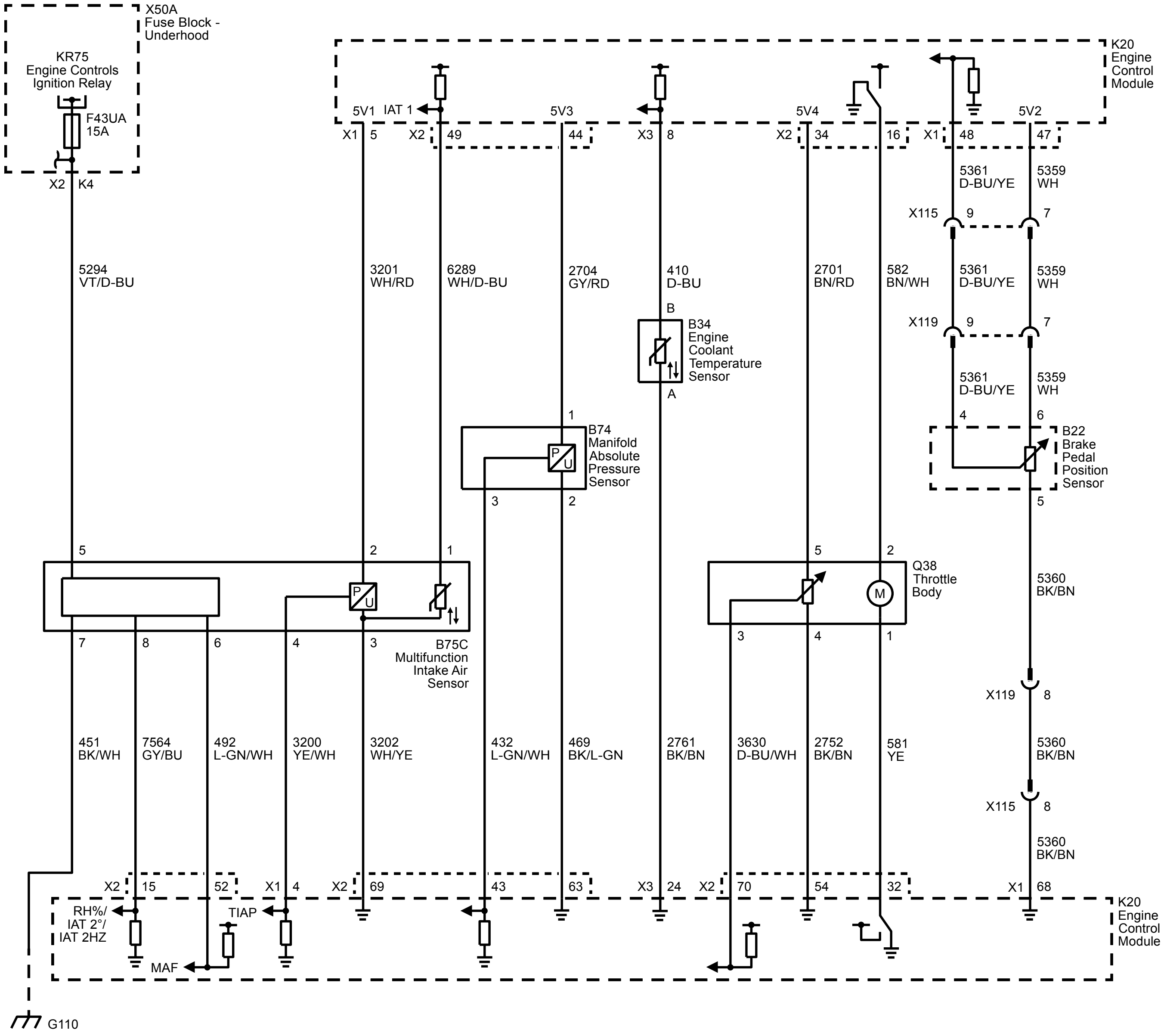


K20 Engine Control Module
5V1
X2 18
X3 34
X1 5
21
X3 2
X1 10
2917 BN/RD
5300 GY/D-BU
2709 YE/RD
X160 10
X154 1
3201 WH/RD
2700 BN/RD
2705 WH/RD
X125 16
2917 BN/RD
5300 GY/D-BU
2709 YE/RD
A7 Fuel Pump and Level Sensor Assembly
1
B47B Fuel Rail Pressure Sensor
3
1
B23 Camshaft Position Sensor
2
2
B75C Multifunction Intake Air Sensor
3
2
B1 A/C Refrigerant Pressure Sensor
1
3
B37B Engine Oil Pressure Sensor
2
B46 Fuel Level Sensor
3
B150 Fuel Tank Pressure Sensor
2
2919 BK/L-GN
5301 BK/L-GN
6281 BU
X160 12
X154 2
3
2919 BK/L-GN
5301 BK/L-GN
3202 WH/YE
5514 BK/BN
2755 BK/PU
6281 BK/L-GN
6281 BK/L-GN
J375
6281 BK/L-GN
X125 12
6281 BK/L-GN
X2 3
X3 53
X2 69
X1 22
X3 17
X1 26
L
Low Reference Bus
K20 Engine Control Module

LOC
DESC

5V2, 5V3, 5V4, and Low Reference Bus (2 of 2)


K20 Engine Control Module
5V2
5V3
5V4
X1 47
X3 10
X2 5
44
X1 33
14
X2 34
M2P/MXW
MYC
MXW
1274 BN/RD
1164 WH/RD
X115 25
18
6109 GY/RD
5359 WH
X115 45
9
LV1
LV3
LV3
LV1
6270 VT/D-BU
3096 GY/BK
2704 GY/RD
2701 BN/RD
X119 6
3
X119 6
X119 3
X119 7
X119 13
A
6
3
A
1
C
D
5
B25B Clutch Pedal Position Sensor
B22 Brake Pedal Position Sensor
B26 Crankshaft Position Sensor
B115 Vehicle Speed Sensor
B74 Manifold Absolute Pressure Sensor
B107 Accelerator Pedal Position Sensor
Q38 Throttle Body
B34 Engine Coolant Temperature Sensor
C
5
2
C
2
A
F
4
A
6110 BK/GY
5360 BK/BN
1272 BK/VT
1271 BK/D-BU
X119 14
X119 8
X119 4
X119 1
X119 4
1
6272 BK/VT
3097 WH/BK
469 BK/L-GN
2752 BK/BN
2761 BK/BN
X115 46
8
X115 27
19
6109 BK/GY
X1 68
X3 25
X2 21
63
X1 53
30
X2 54
X3 24
Low Reference Bus
L
K20 Engine Control Module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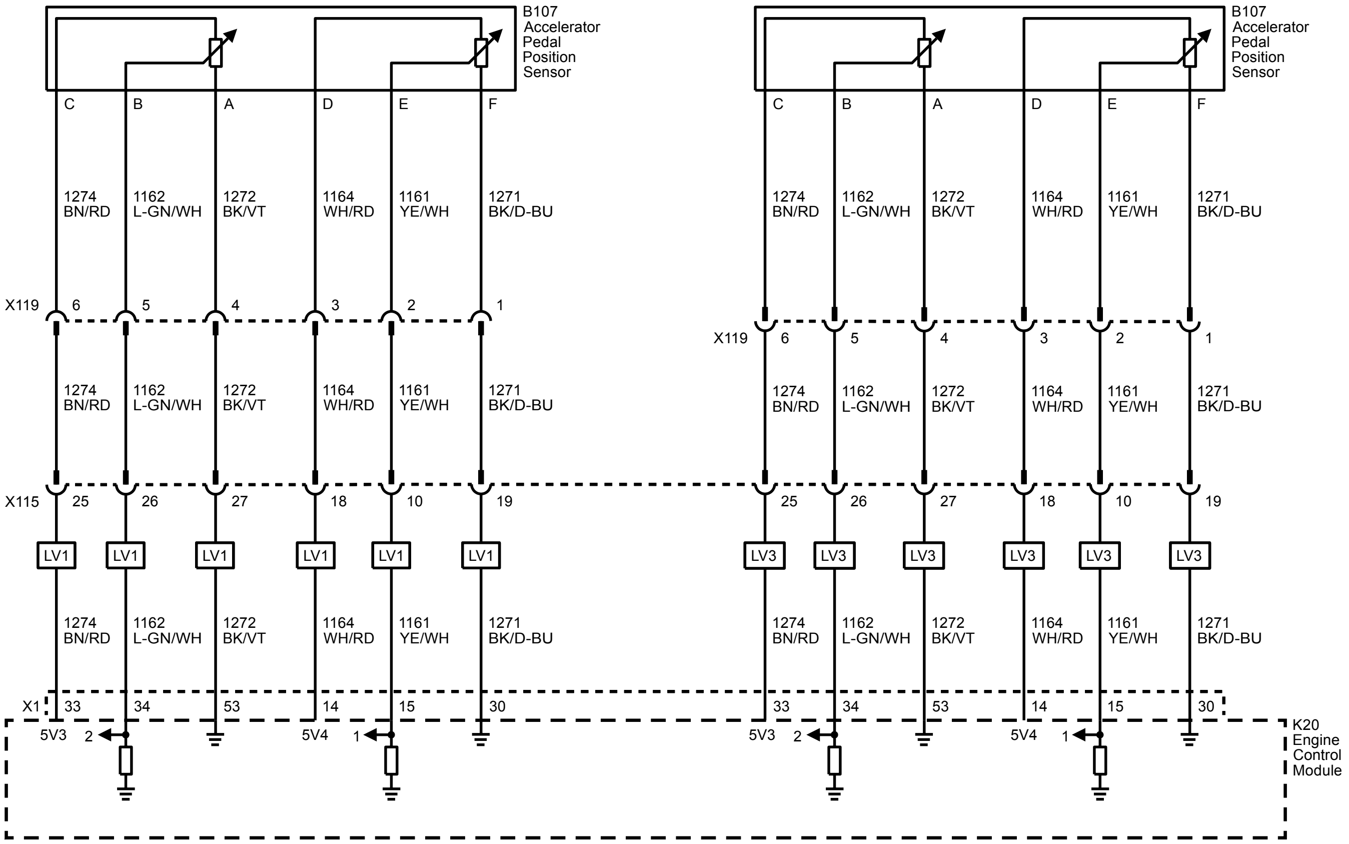
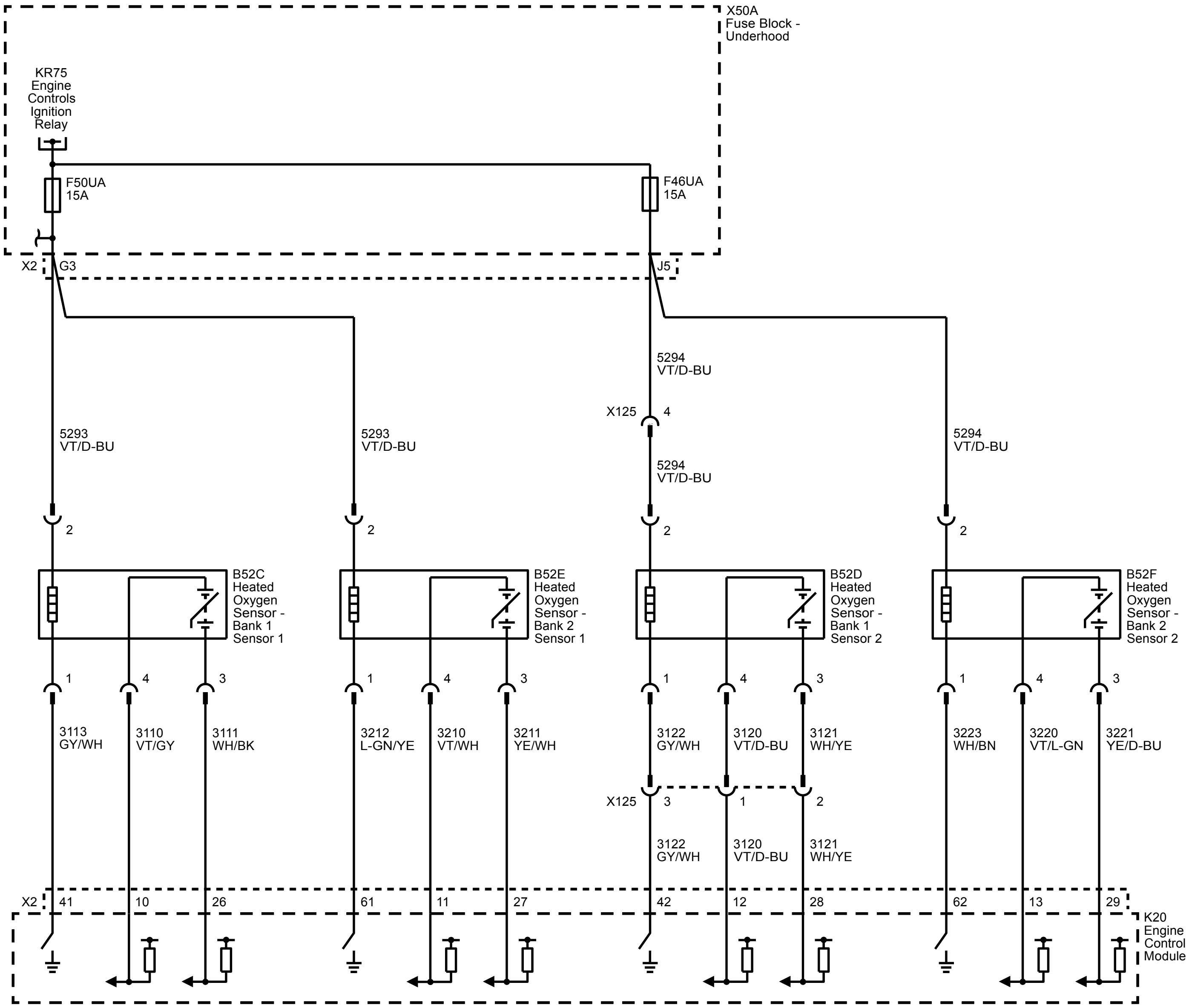
Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F43UA
15A
X2 K4
5294
VT/D-BU
K20
Engine Control Module
5V1
IAT 1
5V3
5V4
5V2
X1 5
X2 49
44
X3 8
X2 34
16
X1 48
47
3201
WH/RD
6289
WH/D-BU
2704
GY/RD
410
D-BU
2701
BN/RD
582
BN/WH
5361
D-BU/YE
5359
WH
X115 9 7
X119 9 7
B
B34
Engine Coolant Temperature Sensor
A
1
B74
Manifold Absolute Pressure Sensor
3
2
4
6
B22
Brake Pedal Position Sensor
5
5
2
1
P
U
B75C
Multifunction Intake Air Sensor
7
8
6
4
3
Q38
Throttle Body
M
3
4
1
5360
BK/BN
X119 8
X115 8
451
BK/WH
7564
GY/BU
492
L-GN/WH
3200
YE/WH
3202
WH/YE
432
L-GN/WH
469
BK/L-GN
2761
BK/BN
3630
D-BU/WH
2752
BK/BN
581
YE
X2 15
52
X1 4
X2 69
43
63
X3 24
X2 70
54
32
X1 68
RH%/ IAT 2°/ IAT 2HZ
TIAP
MAF
G110


B107 Accelerator Pedal Position Sensor
C
B
A
D
E
F
1274 BN/RD
1162 L-GN/WH
1272 BK/VT
1164 WH/RD
1161 YE/WH
1271 BK/D-BU
X119
6
5
4
3
2
1
X115
25
26
27
18
10
19
LV1
LV3
X1
33
34
53
14
15
30
5V3
2
5V4
1
K20 Engine Control Module

Engine Data Sensors - Oxygen Sensors


X50A
Fuse Block -
Underhood
KR75
Engine
Controls
Ignition
Relay
F50UA
15A
F46UA
15A
X2
G3
J5
5293
VT/D-BU
5293
VT/D-BU
5294
VT/D-BU
X125
4
5294
VT/D-BU
5294
VT/D-BU
2
2
2
2
B52C
Heated
Oxygen
Sensor -
Bank 1
Sensor 1
B52E
Heated
Oxygen
Sensor -
Bank 2
Sensor 1
B52D
Heated
Oxygen
Sensor -
Bank 1
Sensor 2
B52F
Heated
Oxygen
Sensor -
Bank 2
Sensor 2
1
4
3
1
4
3
1
4
3
1
4
3
3113
GY/WH
3110
VT/GY
3111
WH/BK
3212
L-GN/YE
3210
VT/WH
3211
YE/WH
3122
GY/WH
3120
VT/D-BU
3121
WH/YE
3223
WH/BN
3220
VT/L-GN
3221
YE/D-BU
X125
3
1
2
3122
GY/WH
3120
VT/D-BU
3121
WH/YE
X2
41
10
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61
11
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42
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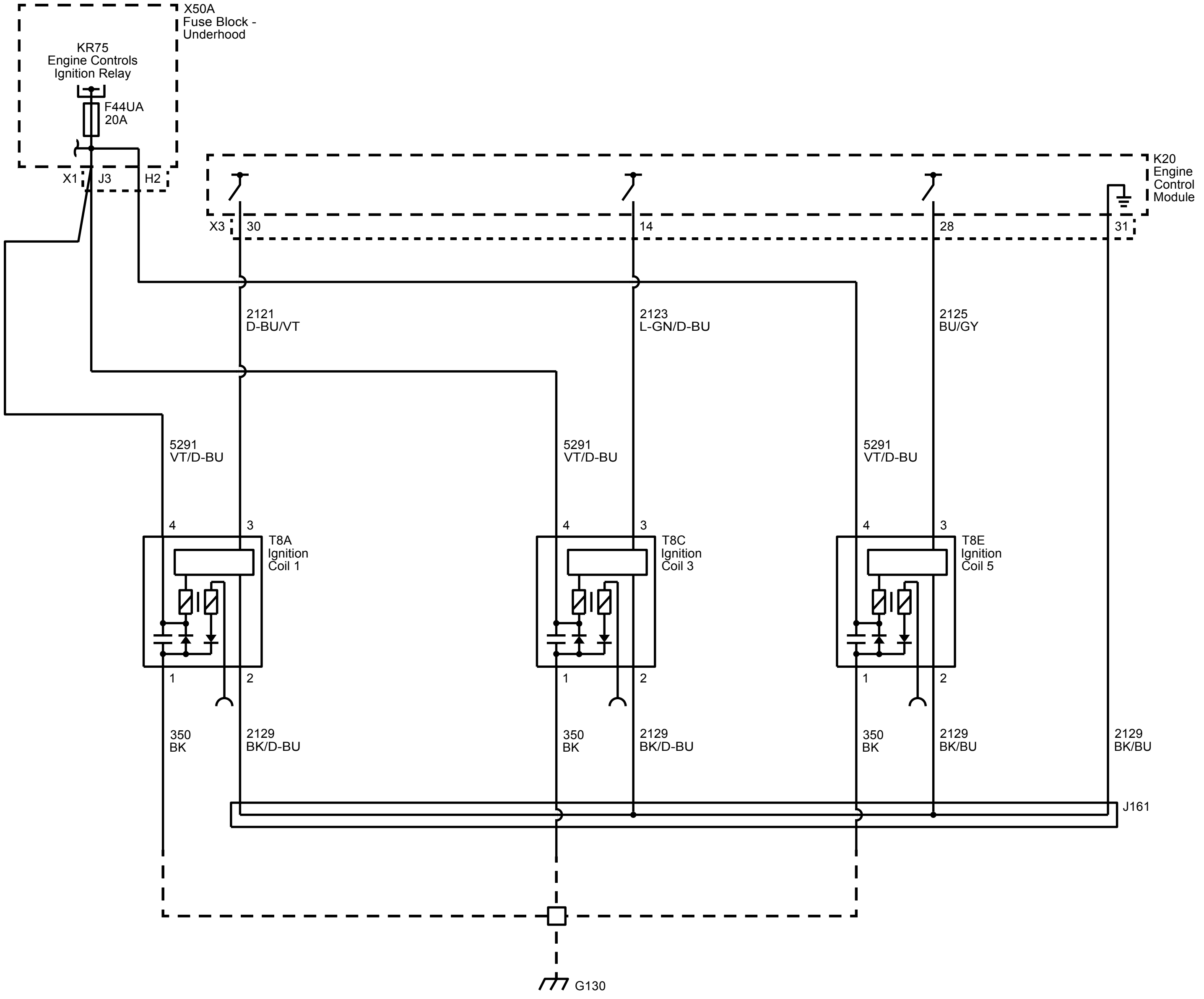
62
13
29
K20
Engine
Control
Module

Ignition Controls - Ignition Coils Bank 1


X50A
Fuse Block -
Underhood
KR75
Engine Controls
Ignition Relay
F44UA
20A
X1
J3
H2
K20
Engine
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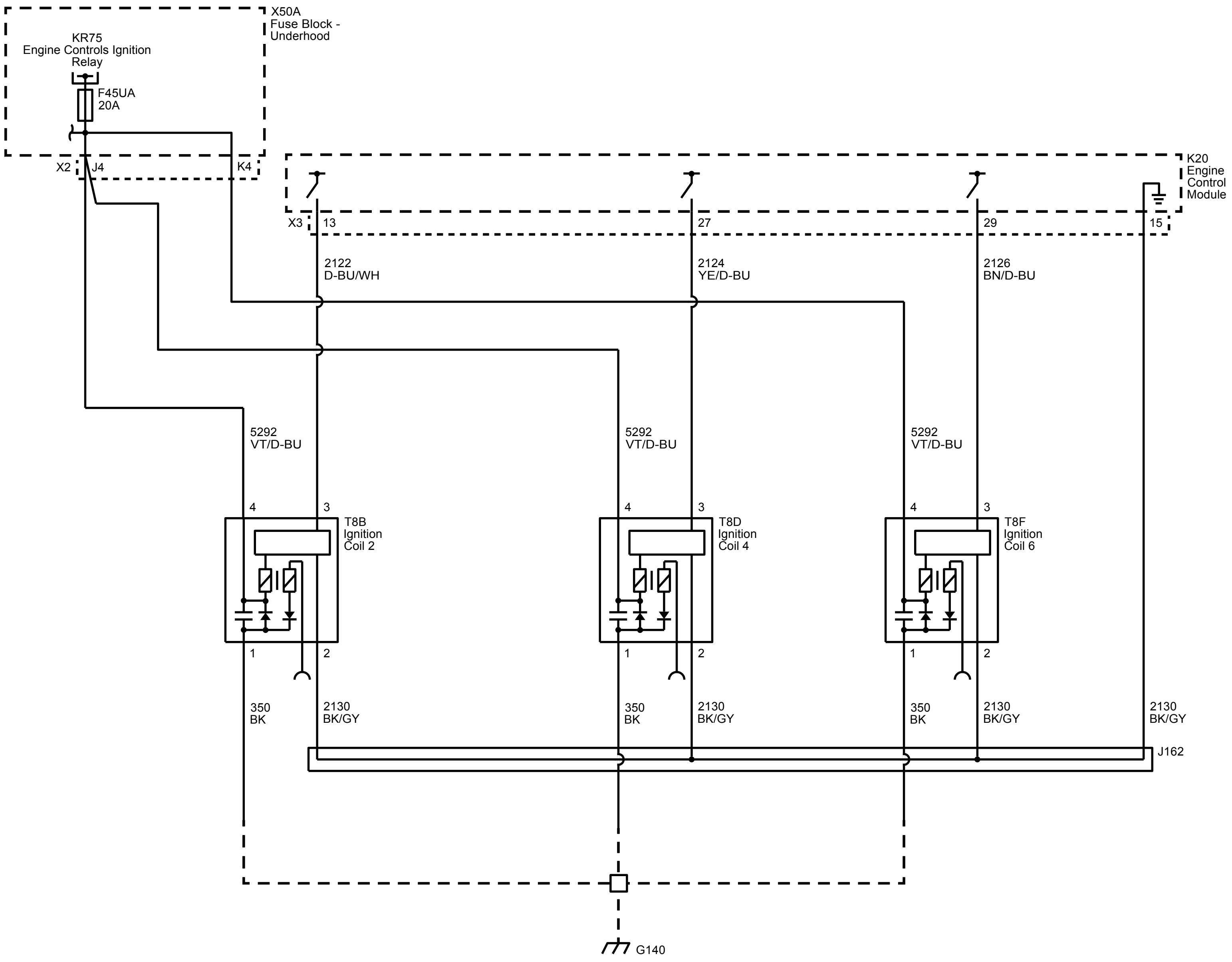
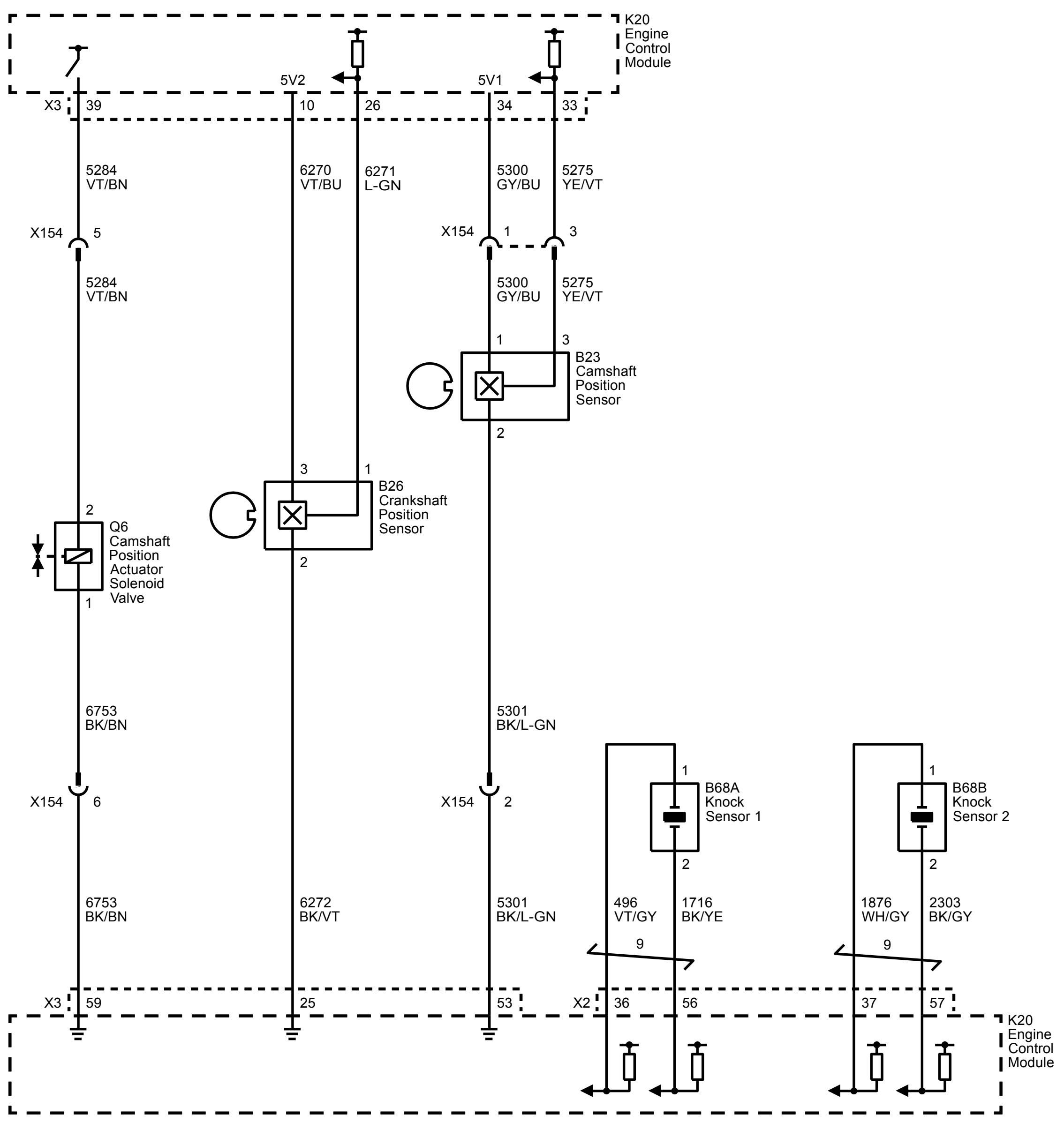
Module
X3
30
14
28
31
2121
D-BU/VT
2123
L-GN/D-BU
2125
BU/GY
5291
VT/D-BU
5291
VT/D-BU
5291
VT/D-BU
4
3
T8A
Ignition
Coil 1
4
3
T8C
Ignition
Coil 3
4
3
T8E
Ignition
Coil 5
1
2
1
2
1
2
350
BK
2129
BK/D-BU
350
BK
2129
BK/D-BU
350
BK
2129
BK/BU
2129
BK/BU
J161
G130

Ignition Controls - Ignition Coils Bank 2


X50A
Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F45UA
20A
X2
J4
K4
K20
Engine
Control
Module
X3
13
27
29
15
2122
D-BU/WH
2124
YE/D-BU
2126
BN/D-BU
5292
VT/D-BU
5292
VT/D-BU
5292
VT/D-BU
4
3
T8B
Ignition
Coil 2
4
3
T8D
Ignition
Coil 4
4
3
T8F
Ignition
Coil 6
1
2
1
2
1
2
350
BK
2130
BK/GY
350
BK
2130
BK/GY
350
BK
2130
BK/GY
2130
BK/GY
J162
G140

Ignition Controls - Crankshaft Position, Camshaft Position, Knock Sensors and Camshaft Position Actuator


K20 Engine Control Module
5V2
5V1
X3
39
10
26
34
33
5284 VT/BN
6270 VT/BU
6271 L-GN
5300 GY/BU
5275 YE/VT
X154
5
X154
1
3
5284 VT/BN
5300 GY/BU
5275 YE/VT
1
3
B23 Camshaft Position Sensor
2
3
1
B26 Crankshaft Position Sensor
2
2
Q6 Camshaft Position Actuator Solenoid Valve
1
6753 BK/BN
5301 BK/L-GN
1
B68A Knock Sensor 1
2
1
B68B Knock Sensor 2
2
X154
6
X154
2
6753 BK/BN
6272 BK/VT
5301 BK/L-GN
496 VT/GY
1716 BK/YE
1876 WH/GY
2303 BK/GY
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X3
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25
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X2
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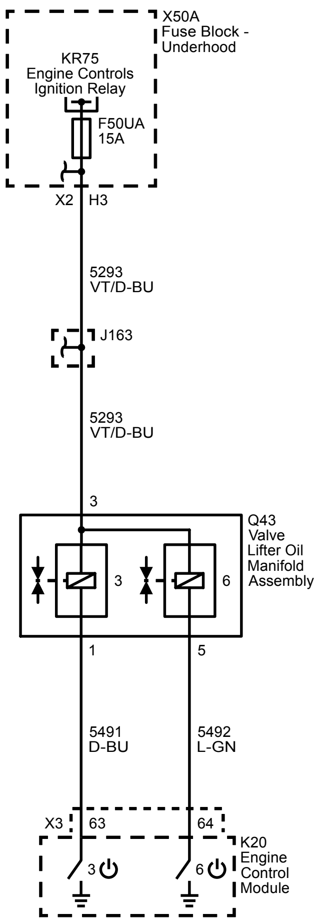
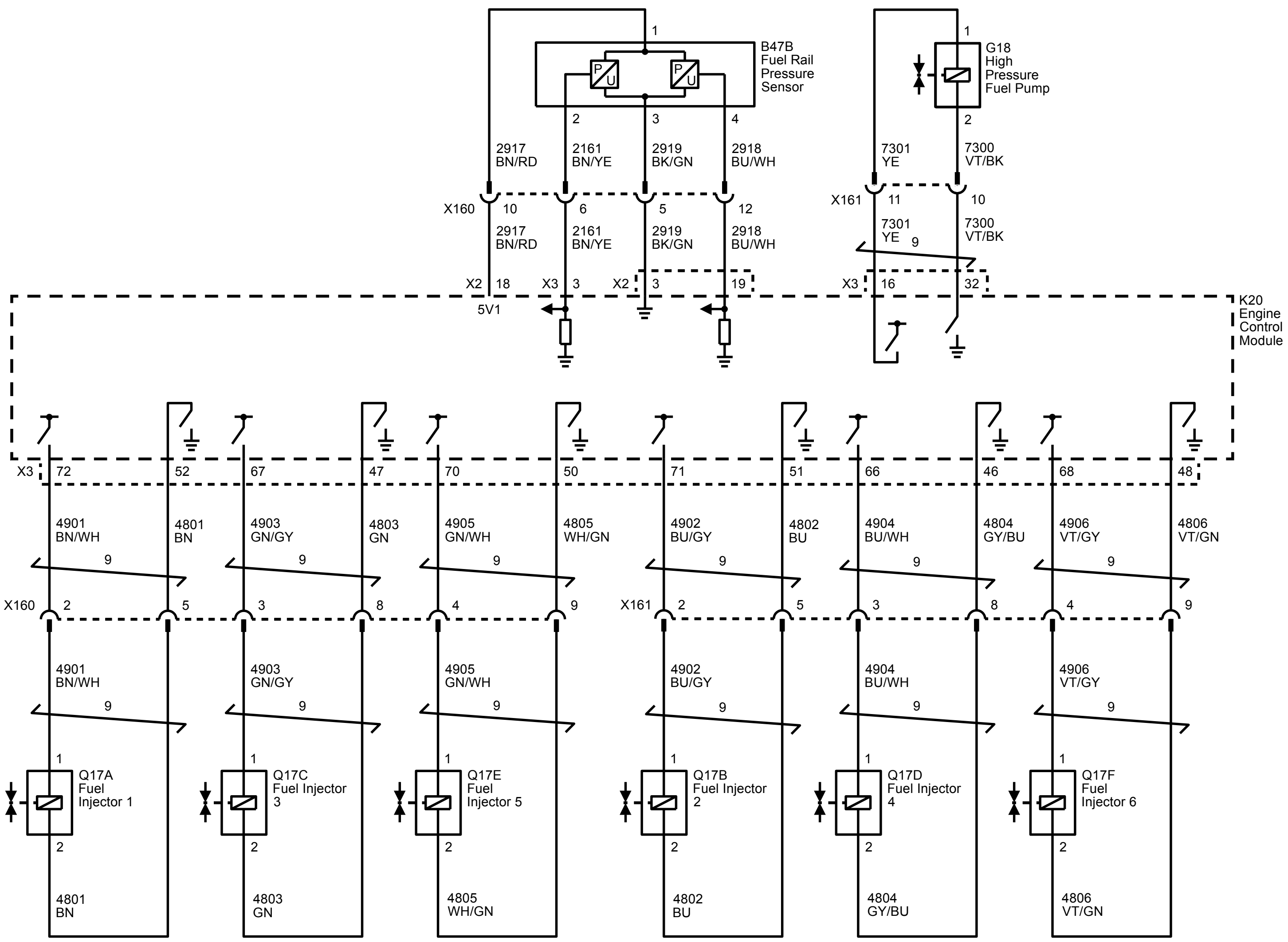
56
37
57
K20 Engine Control Module

Valve Lifter Oil Manifold Assembly


X50A
Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F50UA
15A
X2
H3
5293
VT/D-BU
J163
5293
VT/D-BU
3
Q43
Valve
Lifter Oil
Manifold
Assembly
3
6
1
5
5491
D-BU
5492
L-GN
X3
63
64
K20
Engine
Control
Module
3
6

Fuel Controls - Fuel Injectors and Fuel Pressure



B47B
Fuel Rail
Pressure
Sensor
G18
High
Pressure
Fuel Pump
K20
Engine
Control
Module
1
2
3
4
P
U
2917
BN/RD
2161
BN/YE
2919
BK/GN
2918
BU/WH
7301
YE
7300
VT/BK
X160
10
6
5
12
X161
11
10
9
X2
18
X3
3
X2
3
19
X3
16
32
5V1
X3
72
52
67
47
70
50
71
51
66
46
68
48
4901
BN/WH
4801
BN
4903
GN/GY
4803
GN
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GN/WH
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WH/GN
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BU/GY
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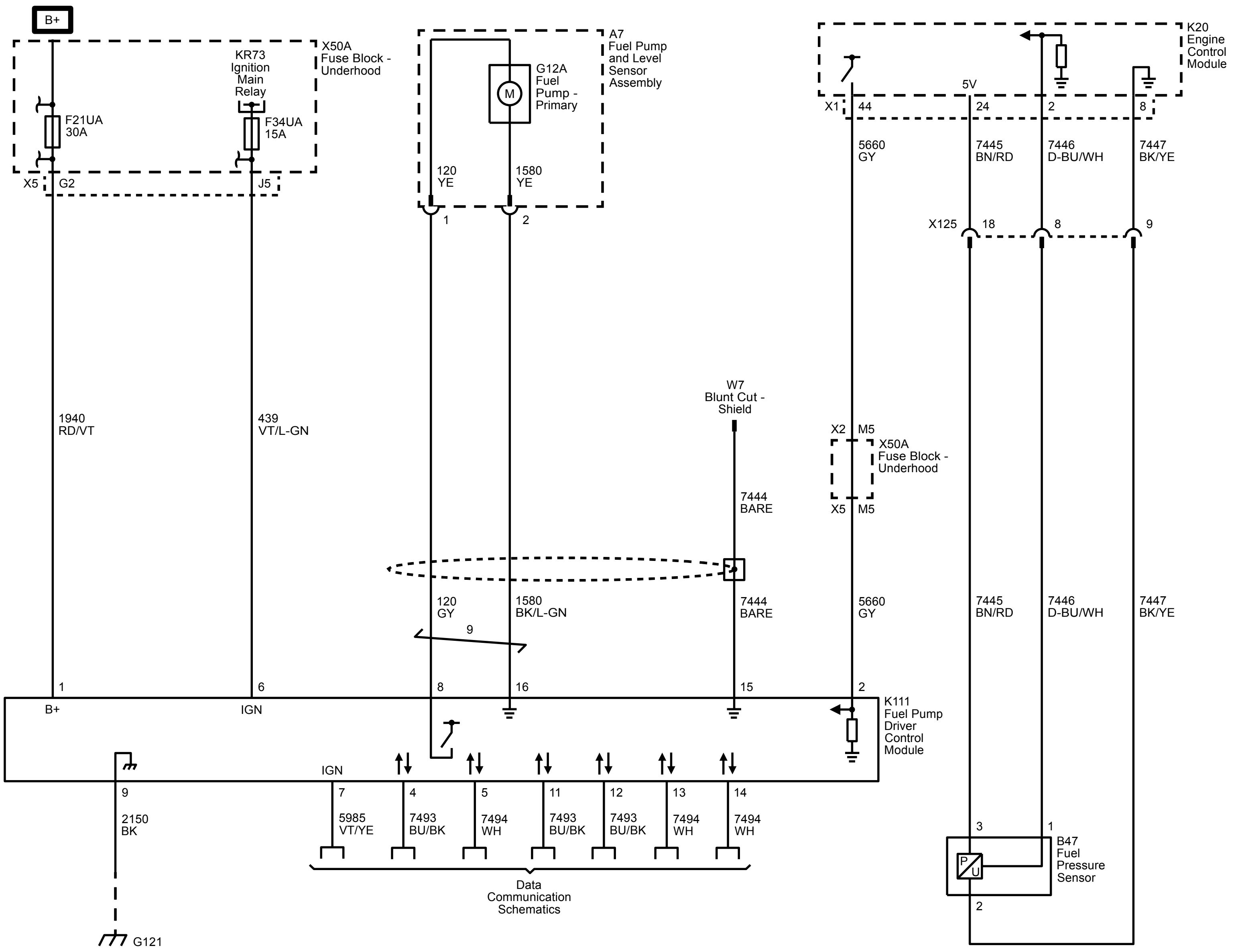
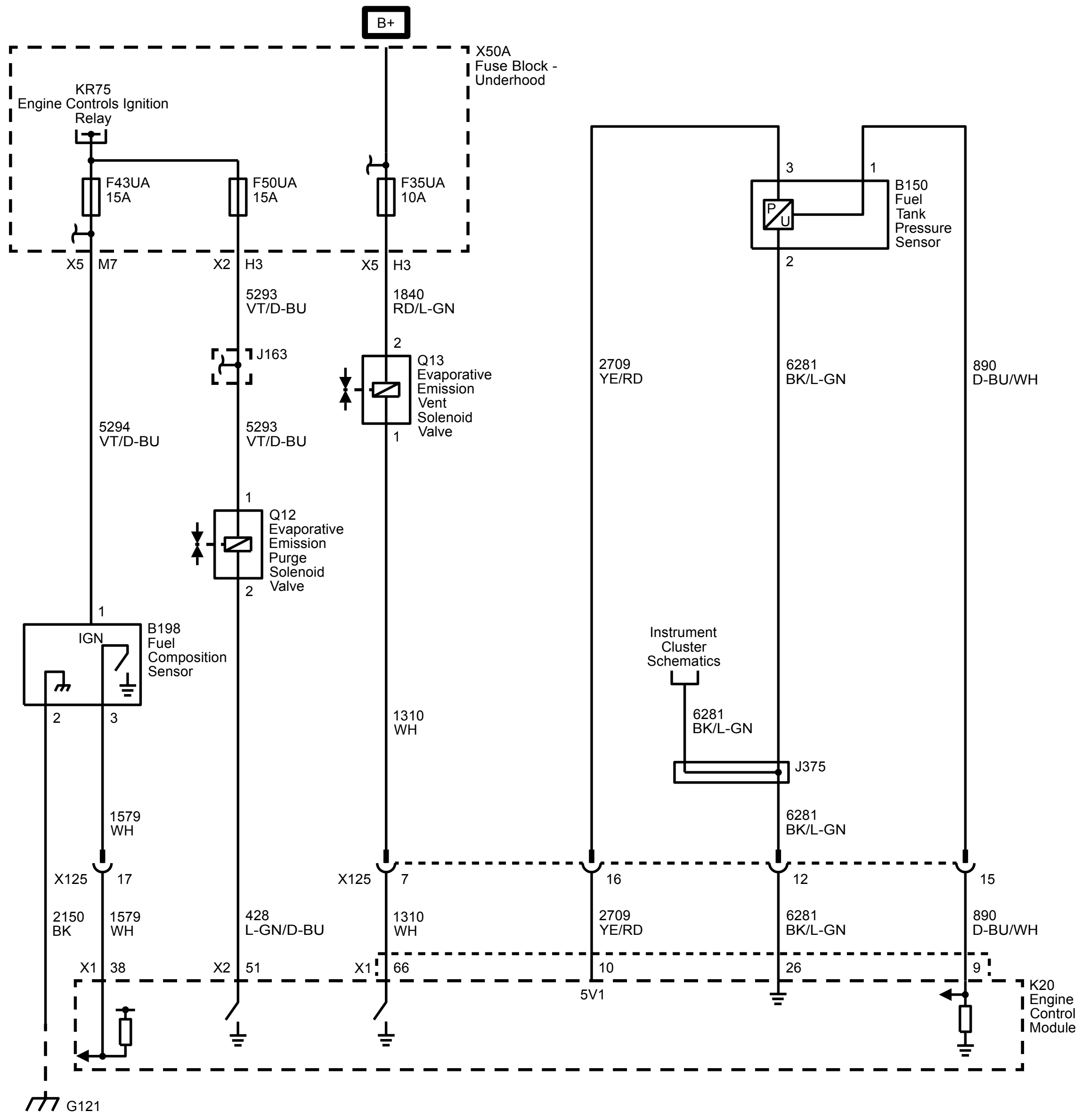
BU
4904
BU/WH
4804
GY/BU
4906
VT/GY
4806
VT/GN
X160
2
5
3
8
4
9
X161
2
5
3
8
4
9
Q17A
Fuel
Injector 1
Q17C
Fuel Injector
3
Q17E
Fuel
Injector 5
Q17B
Fuel Injector
2
Q17D
Fuel Injector
4
Q17F
Fuel
Injector 6

Fuel Controls - Fuel Pump Control


B+
X50A Fuse Block - Underhood
KR73 Ignition Main Relay
F21UA 30A
F34UA 15A
X5
G2
J5
1940 RD/VT
439 VT/L-GN
A7 Fuel Pump and Level Sensor Assembly
G12A Fuel Pump - Primary
M
120 YE
1580 YE
1
2
120 GY
1580 BK/L-GN
9
W7 Blunt Cut - Shield
7444 BARE
7444 BARE
K20 Engine Control Module
5V
X1
44
24
2
8
5660 GY
7445 BN/RD
7446 D-BU/WH
7447 BK/YE
X125
18
8
9
X2
M5
X50A Fuse Block - Underhood
X5
M5
5660 GY
7445 BN/RD
7446 D-BU/WH
7447 BK/YE
1
6
8
16
15
2
B+
IGN
K111 Fuel Pump Driver Control Module
IGN
9
7
4
5
11
12
13
14
2150 BK
5985 VT/YE
7493 BU/BK
7494 WH
7493 BU/BK
7493 BU/BK
7494 WH
7494 WH
Data Communication Schematics
G121
3
1
B47 Fuel Pressure Sensor
P
U
2

Fuel Controls - Evaporative Emissions Controls

LOC
DESC


B+
X50A
Fuse Block -
Underhood
KR75
Engine Controls Ignition
Relay
F43UA
15A
F50UA
15A
F35UA
10A
X5
M7
X2
H3
X5
H3
5293
VT/D-BU
1840
RD/L-GN
J163
2
Q13
Evaporative
Emission
Vent
Solenoid
Valve
1
5294
VT/D-BU
5293
VT/D-BU
1
Q12
Evaporative
Emission
Purge
Solenoid
Valve
2
1
IGN
B198
Fuel
Composition
Sensor
2
3
1310
WH
3
1
B150
Fuel
Tank
Pressure
Sensor
P
U
2
2709
YE/RD
6281
BK/L-GN
890
D-BU/WH
Instrument
Cluster
Schematics
6281
BK/L-GN
J375
6281
BK/L-GN
1579
WH
X125
17
X125
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16
12
15
2150
BK
1579
WH
428
L-GN/D-BU
1310
WH
2709
YE/RD
6281
BK/L-GN
890
D-BU/WH
X1
38
X2
51
X1
66
10
26
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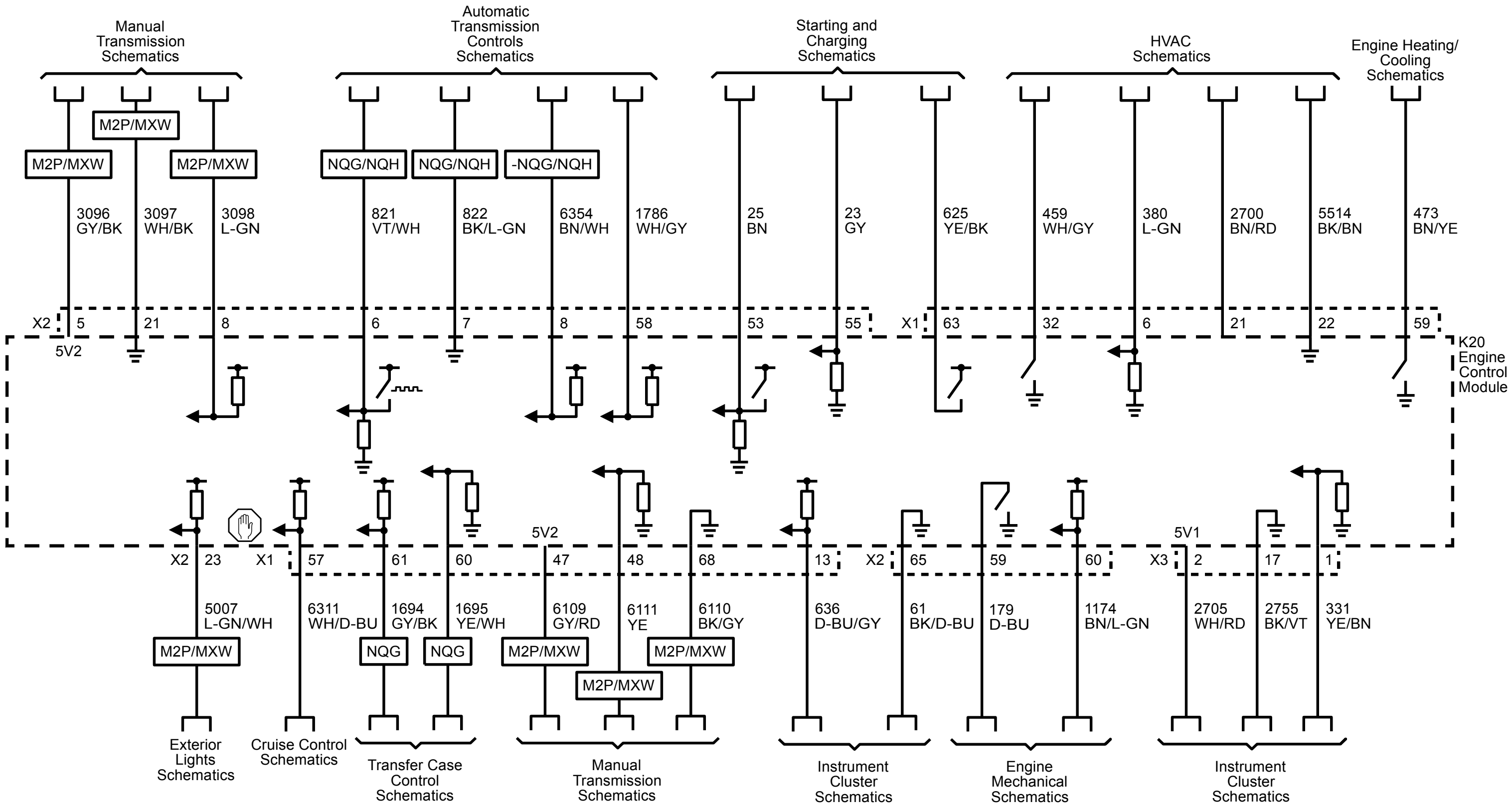
5V1
K20
Engine
Control
Module
G121

Controlled/Monitored Subsystem References

LOC
DESC


Manual Transmission Schematics
M2P/MXW
M2P/MXW
M2P/MXW
3096 GY/BK
3097 WH/BK
3098 L-GN
Automatic Transmission Controls Schematics
NQG/NQH
NQG/NQH
-NQG/NQH
821 VT/WH
822 BK/L-GN
6354 BN/WH
1786 WH/GY
Starting and Charging Schematics
25 BN
23 GY
625 YE/BK
HVAC Schematics
459 WH/GY
380 L-GN
2700 BN/RD
5514 BK/BN
Engine Heating/ Cooling Schematics
473 BN/YE
X2
5
5V2
21
8
6
7
8
58
53
55
X1
63
32
6
21
22
59
K20 Engine Control Module
5V2
5V1
X2
23
X1
57
61
60
47
48
68
13
X2
65
59
60
X3
2
17
1
5007 L-GN/WH
6311 WH/D-BU
1694 GY/BK
1695 YE/WH
6109 GY/RD
6111 YE
6110 BK/GY
636 D-BU/GY
61 BK/D-BU
179 D-BU
1174 BN/L-GN
2705 WH/RD
2755 BK/VT
331 YE/BN
M2P/MXW
NQG
NQG
M2P/MXW
M2P/MXW
M2P/MXW
Exterior Lights Schematics
Cruise Control Schematics
Transfer Case Control Schematics
Manual Transmission Schematics
Instrument Cluster Schematics
Engine Mechanical Schematics
Instrument Cluster Schematics

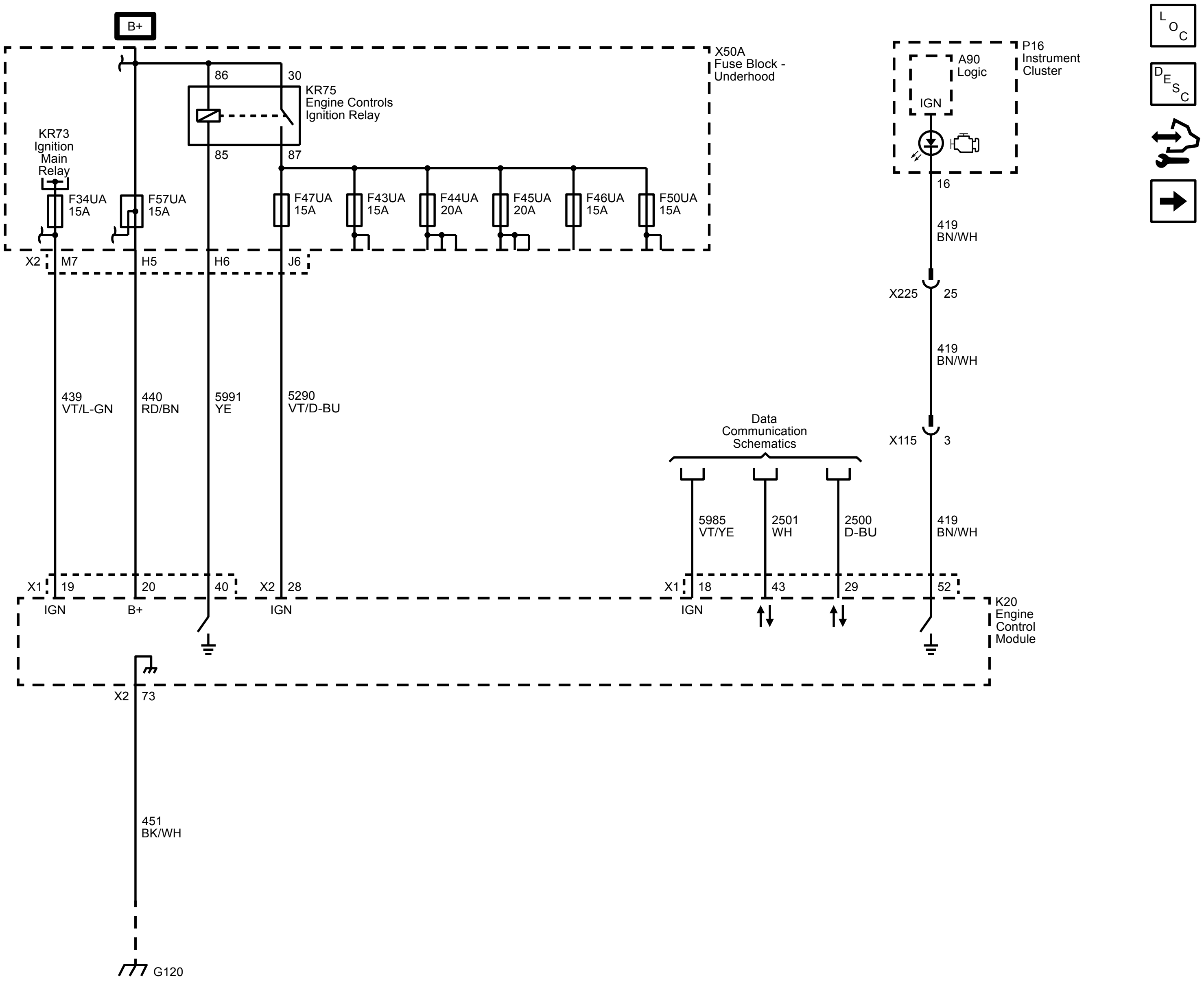
Engine/Propulsion

Engine Controls and Fuel - 6.0L (L96, LC8)

Schematic and Routing Diagrams

Engine Controls Schematics

Power, Ground, Serial Data, and MIL


B+
X50A
Fuse Block -
Underhood
86
30
KR75
Engine Controls
Ignition Relay
85
87
KR73
Ignition
Main
Relay
F34UA
15A
F57UA
15A
F47UA
15A
F43UA
15A
F44UA
20A
F45UA
20A
F46UA
15A
F50UA
15A
X2
M7
H5
H6
J6
439
VT/L-GN
440
RD/BN
5991
YE
5290
VT/D-BU
P16
Instrument
Cluster
A90
Logic
IGN
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BN/WH
X225
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419
BN/WH
X115
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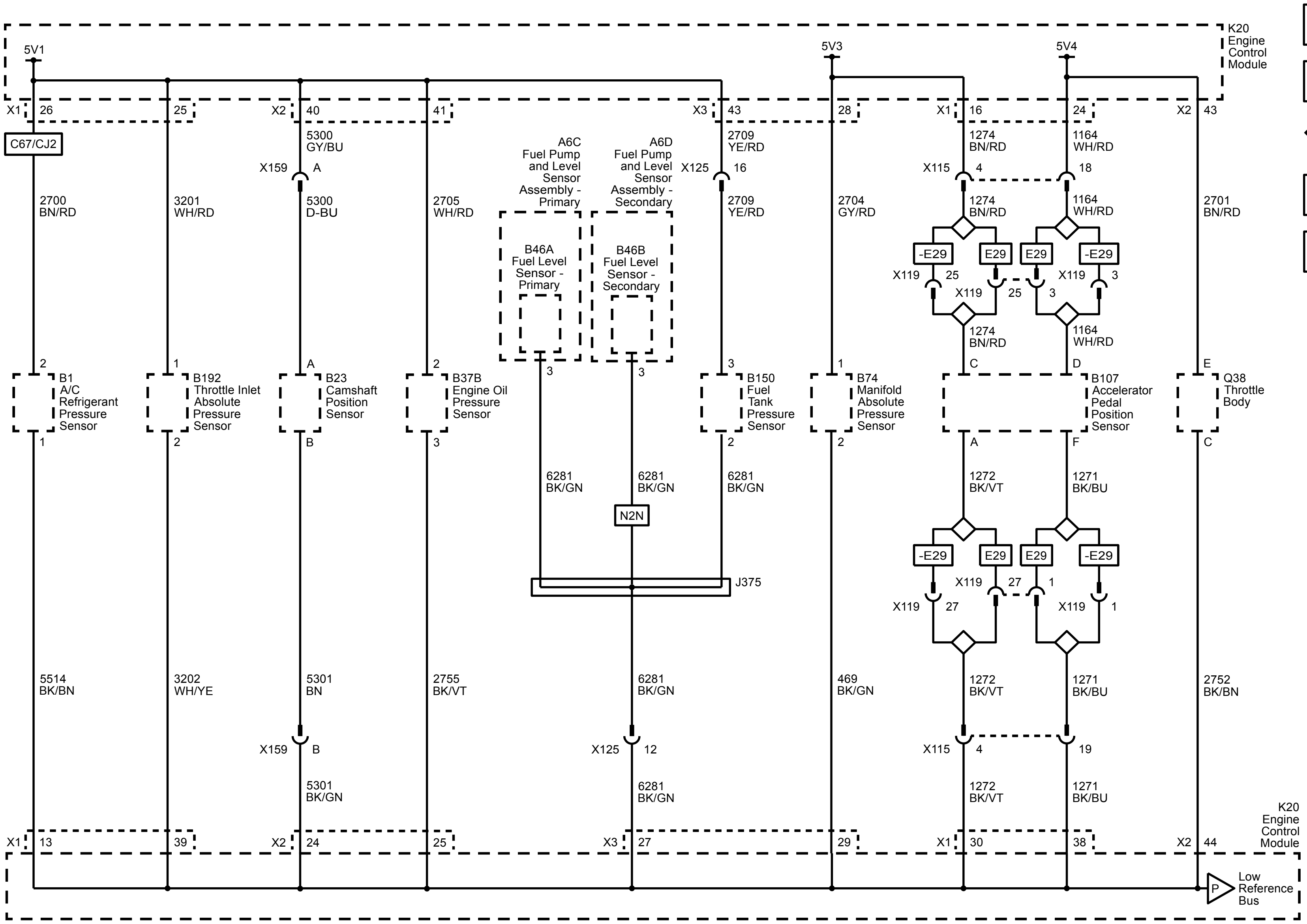
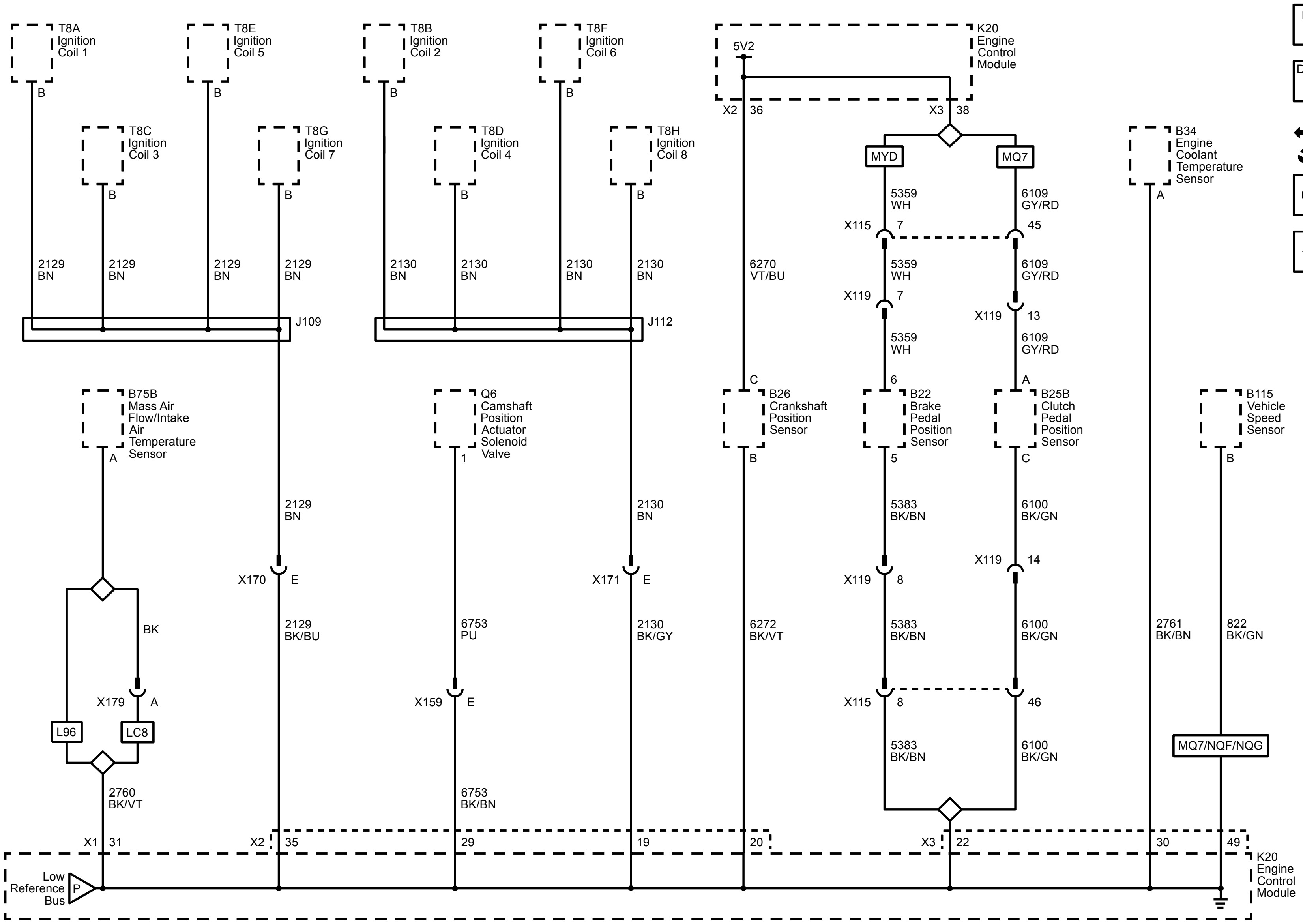
Data
Communication
Schematics
5985
VT/YE
2501
WH
2500
D-BU
419
BN/WH
X1
19
20
40
X2
28
X1
18
43
29
52
IGN
B+
IGN
IGN
K20
Engine
Control
Module
X2
73
451
BK/WH
G120
LOC
DESC

5V1, 5V3, 5V4, and Low Reference Bus (1 of 2)

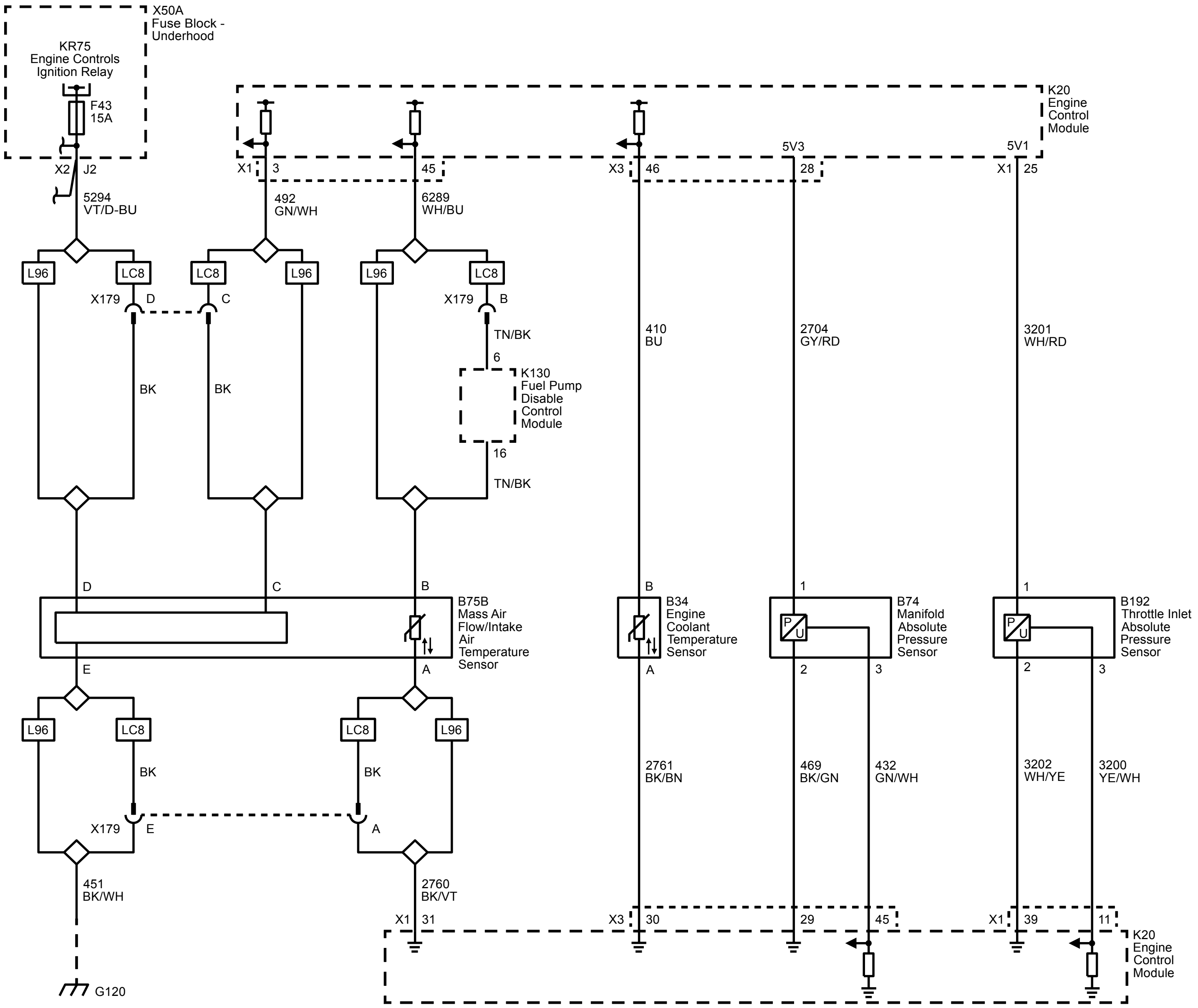

K20 Engine Control Module
5V1
5V3
5V4
X1 26
25
X2 40
41
X3 43
28
X1 16
24
X2 43
C67/CJ2
5300 GY/BU
X159 A
5300 D-BU
2700 BN/RD
3201 WH/RD
2705 WH/RD
A6C Fuel Pump and Level Sensor Assembly - Primary
A6D Fuel Pump and Level Sensor Assembly - Secondary
X125 16
2709 YE/RD
2709 YE/RD
2704 GY/RD
1274 BN/RD
1164 WH/RD
X115 4
18
1274 BN/RD
1164 WH/RD
2701 BN/RD
B46A Fuel Level Sensor - Primary
B46B Fuel Level Sensor - Secondary
-E29
E29
E29
-E29
X119 25
X119 25
3
X119 3
1274 BN/RD
1164 WH/RD
2
B1 A/C Refrigerant Pressure Sensor
1
1
B192 Throttle Inlet Absolute Pressure Sensor
2
A
B23 Camshaft Position Sensor
B
2
B37B Engine Oil Pressure Sensor
3
3
3
3
B150 Fuel Tank Pressure Sensor
2
1
B74 Manifold Absolute Pressure Sensor
2
C
D
B107 Accelerator Pedal Position Sensor
A
F
E
Q38 Throttle Body
C
6281 BK/GN
6281 BK/GN
6281 BK/GN
N2N
J375
1272 BK/VT
1271 BK/BU
-E29
E29
E29
-E29
X119 27
1
X119 27
X119 1
1272 BK/VT
1271 BK/BU
5514 BK/BN
3202 WH/YE
5301 BN
2755 BK/VT
6281 BK/GN
469 BK/GN
2752 BK/BN
X159 B
X125 12
X115 4
19
5301 BK/GN
6281 BK/GN
1272 BK/VT
1271 BK/BU
X1 13
39
X2 24
25
X3 27
29
X1 30
38
X2 44
K20 Engine Control Module
P Low Reference Bus

5V2 and Low Reference Bus (2 of 2)

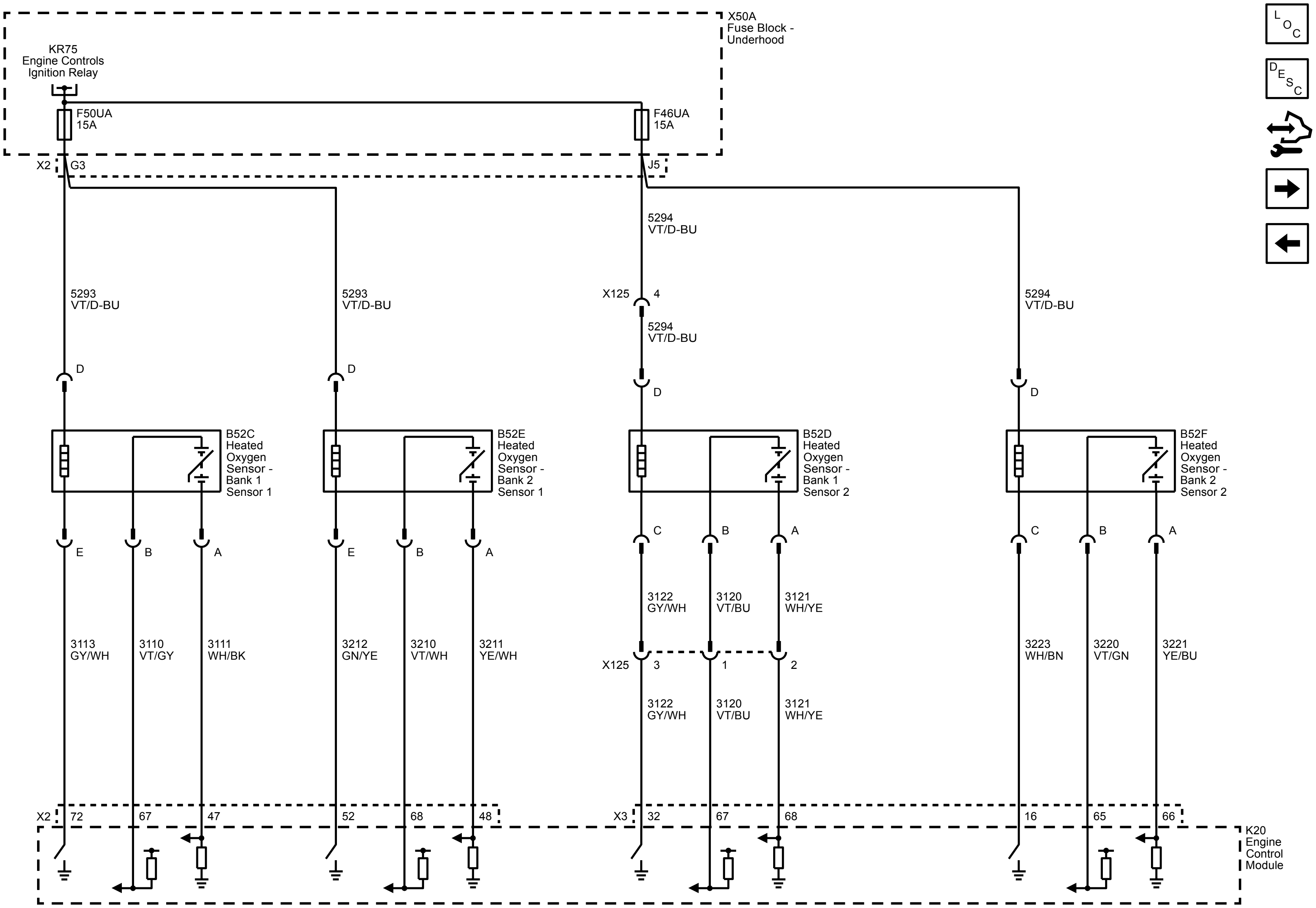


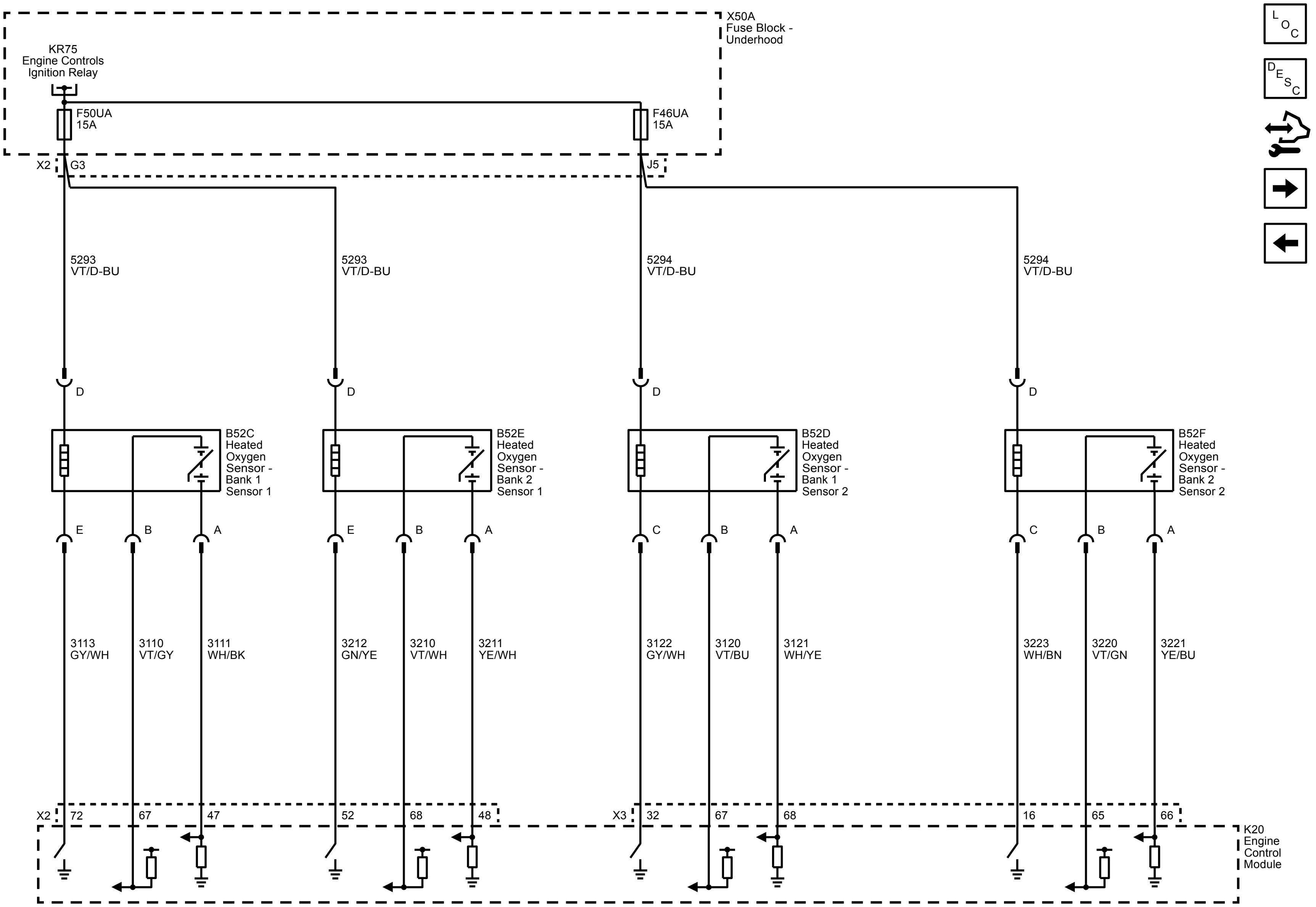
T8A Ignition Coil 1
B
T8E Ignition Coil 5
B
T8B Ignition Coil 2
B
T8F Ignition Coil 6
B
K20 Engine Control Module
5V2
X2 36
X3 38
T8C Ignition Coil 3
B
T8G Ignition Coil 7
B
T8D Ignition Coil 4
B
T8H Ignition Coil 8
B
MYD
MQ7
B34 Engine Coolant Temperature Sensor
A
5359 WH
6109 GY/RD
X115 7
45
2129 BN
2129 BN
2129 BN
2129 BN
2130 BN
2130 BN
2130 BN
2130 BN
6270 VT/BU
5359 WH
6109 GY/RD
X119 7
X119 13
J109
J112
5359 WH
6109 GY/RD
C
6
A
B75B Mass Air Flow/Intake Air Temperature Sensor
A
Q6 Camshaft Position Actuator Solenoid Valve
1
B26 Crankshaft Position Sensor
B
B22 Brake Pedal Position Sensor
5
B25B Clutch Pedal Position Sensor
C
B115 Vehicle Speed Sensor
B
2129 BN
2130 BN
5383 BK/BN
6100 BK/GN
X119 14
X170 E
X171 E
X119 8
BK
2129 BK/BU
6753 PU
2130 BK/GY
6272 BK/VT
5383 BK/BN
6100 BK/GN
2761 BK/BN
822 BK/GN
X179 A
X159 E
X115 8
46
L96
LC8
5383 BK/BN
6100 BK/GN
MQ7/NQF/NQG
2760 BK/VT
6753 BK/BN
X1 31
X2 35
29
19
20
X3 22
30
49
Low Reference Bus
P
K20 Engine Control Module

LOC
DESC

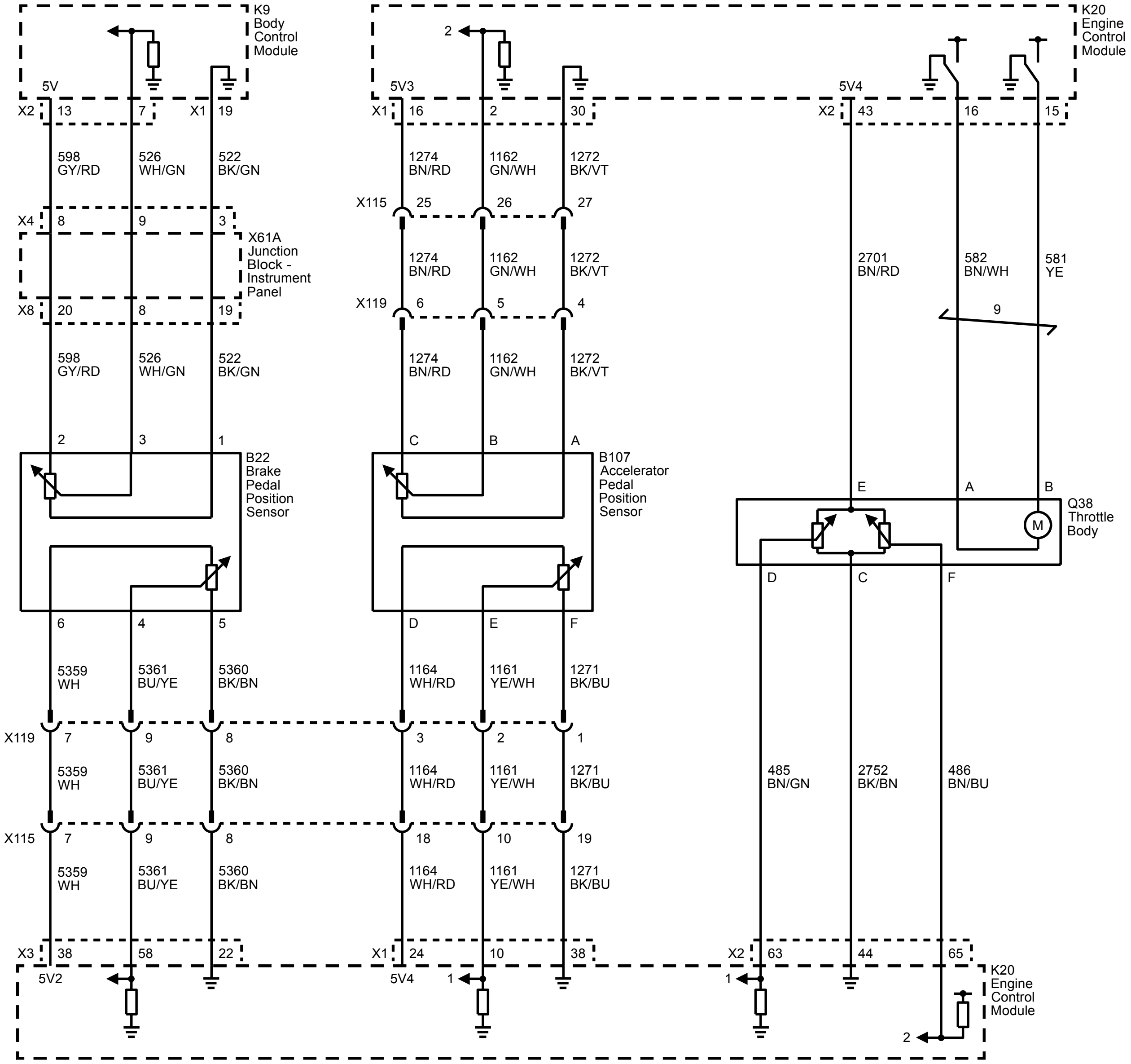

X50A
Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F43
15A
X2
J2
5294
VT/D-BU
K20
Engine Control Module
X1
3
45
X3
46
5V3
28
5V1
X1
25
492
GN/WH
6289
WH/BU
L96
LC8
LC8
L96
L96
LC8
X179
D
C
X179
B
TN/BK
6
K130
Fuel Pump Disable Control Module
16
TN/BK
BK
BK
410
BU
2704
GY/RD
3201
WH/RD
D
C
B
B75B
Mass Air Flow/Intake Air Temperature Sensor
E
A
B
B34
Engine Coolant Temperature Sensor
A
1
B74
Manifold Absolute Pressure Sensor
2
3
1
B192
Throttle Inlet Absolute Pressure Sensor
2
3
P
U
P
U
L96
LC8
LC8
L96
BK
BK
X179
E
A
2761
BK/BN
469
BK/GN
432
GN/WH
3202
WH/YE
3200
YE/WH
451
BK/WH
2760
BK/VT
X1
31
X3
30
29
45
X1
39
11
K20
Engine Control Module
G120

Engine Data Sensors - Heated Oxygen Sensors (without ZW9)

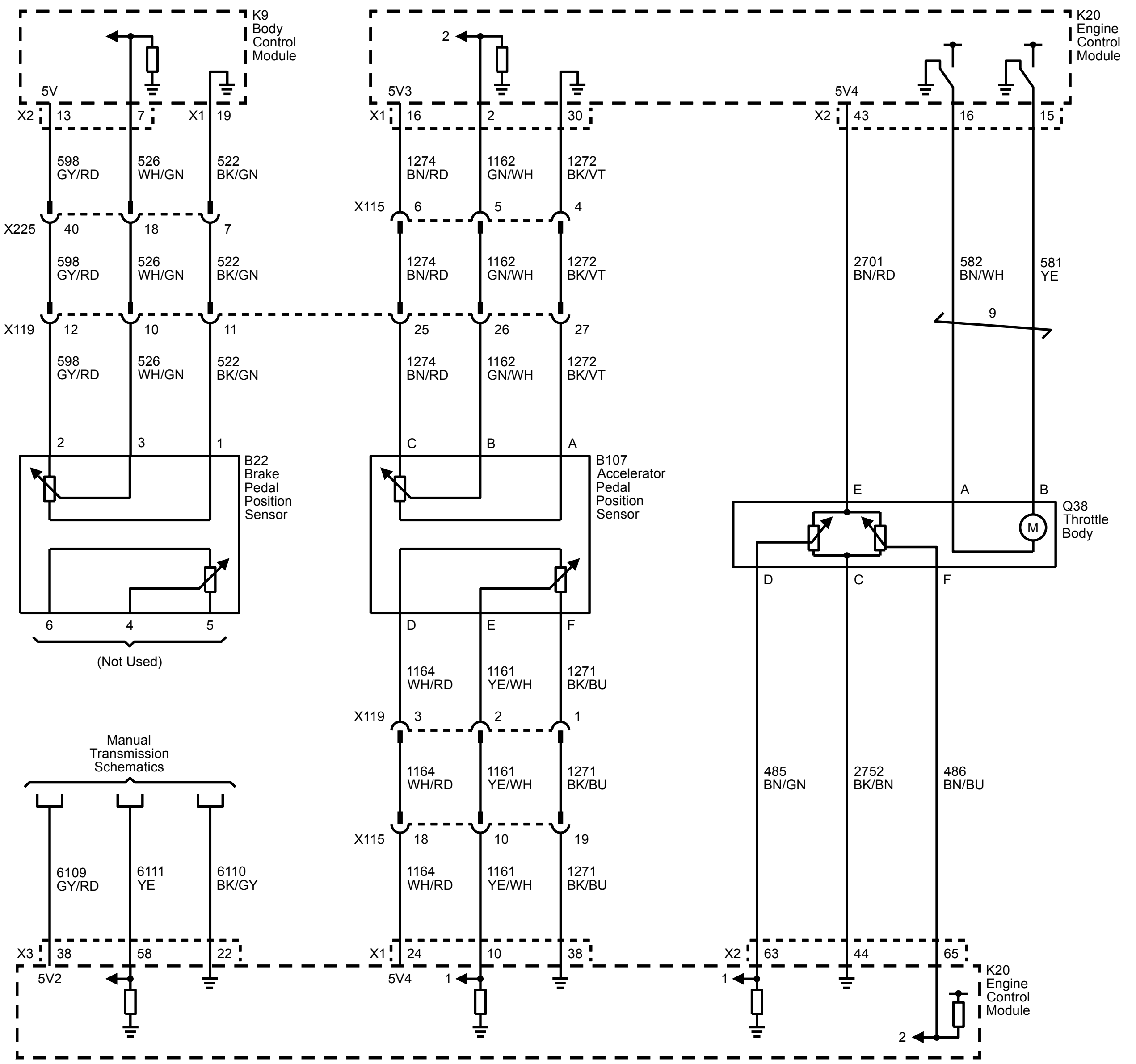

X50A
Fuse Block -
Underhood
KR75
Engine Controls
Ignition Relay
F50UA
15A
F46UA
15A
X2
G3
J5
5293
VT/D-BU
5293
VT/D-BU
5294
VT/D-BU
X125
4
5294
VT/D-BU
5294
VT/D-BU
D
D
D
D
B52C
Heated
Oxygen
Sensor -
Bank 1
Sensor 1
B52E
Heated
Oxygen
Sensor -
Bank 2
Sensor 1
B52D
Heated
Oxygen
Sensor -
Bank 1
Sensor 2
B52F
Heated
Oxygen
Sensor -
Bank 2
Sensor 2
E
B
A
E
B
A
C
B
A
C
B
A
3113
GY/WH
3110
VT/GY
3111
WH/BK
3212
GN/YE
3210
VT/WH
3211
YE/WH
3122
GY/WH
3120
VT/BU
3121
WH/YE
X125
3
1
2
3122
GY/WH
3120
VT/BU
3121
WH/YE
3223
WH/BN
3220
VT/GN
3221
YE/BU
X2
72
67
47
52
68
48
X3
32
67
68
16
65
66
K20
Engine
Control
Module


X50A
Fuse Block -
Underhood
KR75
Engine Controls
Ignition Relay
F50UA
15A
F46UA
15A
X2
G3
J5
5293
VT/D-BU
5293
VT/D-BU
5294
VT/D-BU
5294
VT/D-BU
D
D
D
D
B52C
Heated
Oxygen
Sensor -
Bank 1
Sensor 1
B52E
Heated
Oxygen
Sensor -
Bank 2
Sensor 1
B52D
Heated
Oxygen
Sensor -
Bank 1
Sensor 2
B52F
Heated
Oxygen
Sensor -
Bank 2
Sensor 2
E
B
A
E
B
A
C
B
A
C
B
A
3113
GY/WH
3110
VT/GY
3111
WH/BK
3212
GN/YE
3210
VT/WH
3211
YE/WH
3122
GY/WH
3120
VT/BU
3121
WH/YE
3223
WH/BN
3220
VT/GN
3221
YE/BU
X2
72
67
47
52
68
48
X3
32
67
68
16
65
66
K20
Engine
Control
Module
LOC
DESC

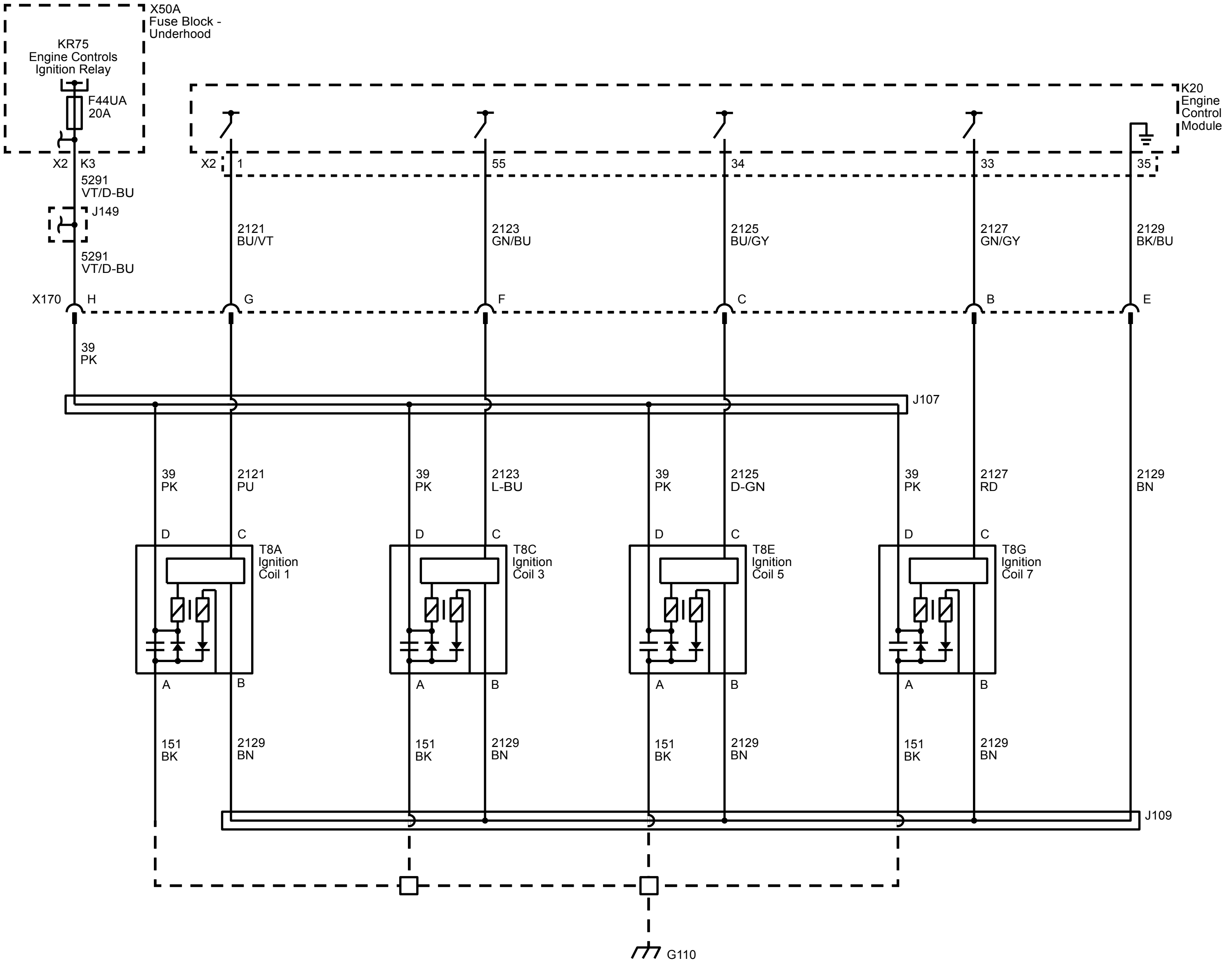
Engine Data Sensors - Throttle Controls and Override (without E29)


K9 Body Control Module
5V
X2 13
7
X1 19
598 GY/RD
526 WH/GN
522 BK/GN
X4 8
9
3
X61A Junction Block - Instrument Panel
X8 20
8
19
598 GY/RD
526 WH/GN
522 BK/GN
2
3
1
B22 Brake Pedal Position Sensor
6
4
5
5359 WH
5361 BU/YE
5360 BK/BN
X119 7
9
8
5359 WH
5361 BU/YE
5360 BK/BN
X115 7
9
8
5359 WH
5361 BU/YE
5360 BK/BN
X3 38
58
22
5V2
K20 Engine Control Module
2
5V3
X1 16
2
30
1274 BN/RD
1162 GN/WH
1272 BK/VT
X115 25
26
27
1274 BN/RD
1162 GN/WH
1272 BK/VT
X119 6
5
4
1274 BN/RD
1162 GN/WH
1272 BK/VT
C
B
A
B107 Accelerator Pedal Position Sensor
D
E
F
1164 WH/RD
1161 YE/WH
1271 BK/BU
3
2
1
1164 WH/RD
1161 YE/WH
1271 BK/BU
18
10
19
1164 WH/RD
1161 YE/WH
1271 BK/BU
X1 24
10
38
5V4
1
5V4
X2 43
16
15
2701 BN/RD
582 BN/WH
581 YE
9
E
A
B
M
Q38 Throttle Body
D
C
F
485 BN/GN
2752 BK/BN
486 BN/BU
X2 63
44
65
1
2
K20 Engine Control Module

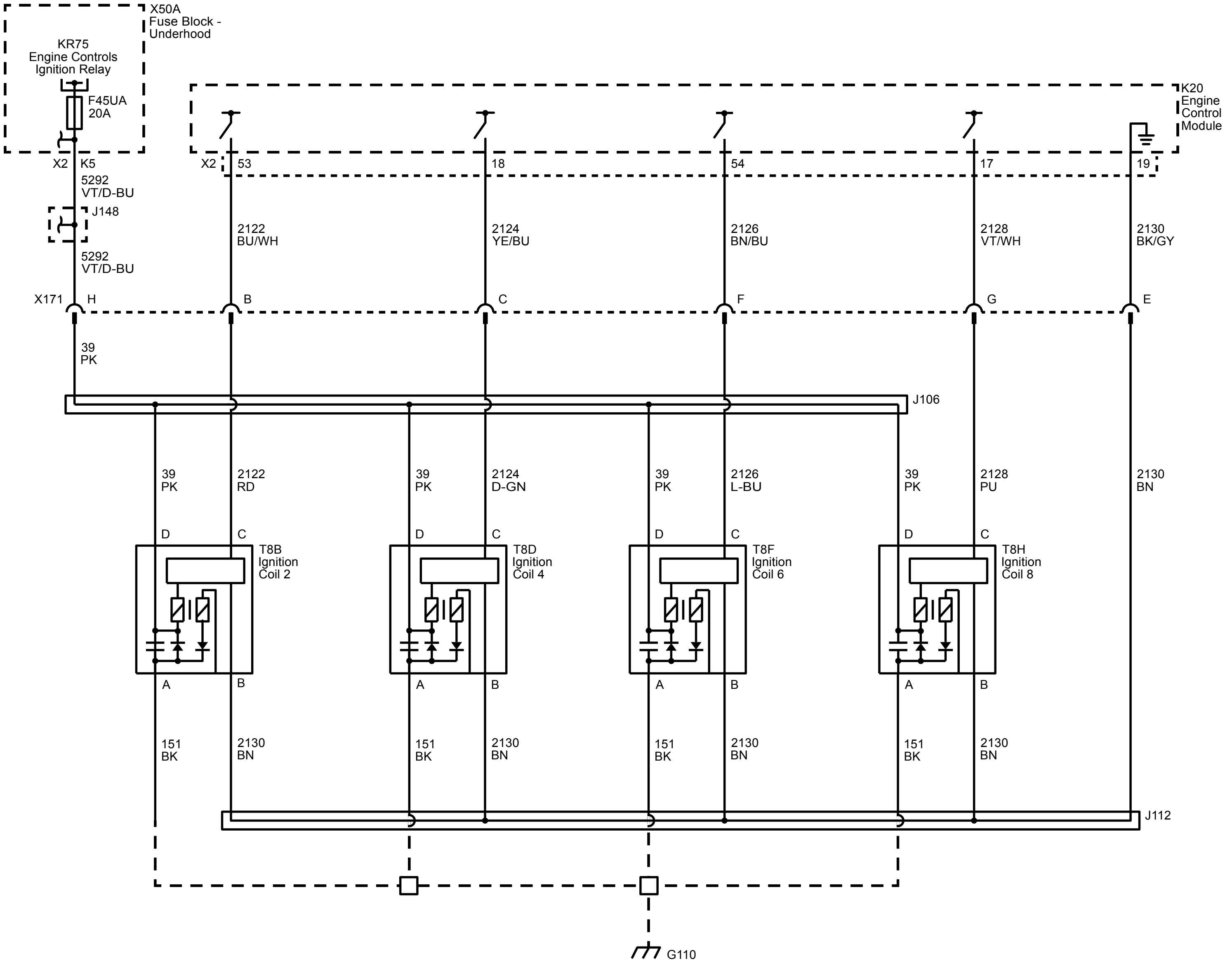
Engine Data Sensors - Throttle Controls and Override (E29)


K9 Body Control Module
5V
X2 13
7
X1 19
598 GY/RD
526 WH/GN
522 BK/GN
X225 40
18
7
X119 12
10
11
2
3
1
B22 Brake Pedal Position Sensor
6
4
5
(Not Used)
K20 Engine Control Module
2
5V3
X1 16
2
30
1274 BN/RD
1162 GN/WH
1272 BK/VT
X115 6
5
4
25
26
27
C
B
A
B107 Accelerator Pedal Position Sensor
D
E
F
1164 WH/RD
1161 YE/WH
1271 BK/BU
X119 3
2
1
X115 18
10
19
5V4
X2 43
16
15
2701 BN/RD
582 BN/WH
581 YE
9
E
A
B
M
Q38 Throttle Body
D
C
F
485 BN/GN
2752 BK/BN
486 BN/BU
Manual Transmission Schematics
6109 GY/RD
6111 YE
6110 BK/GY
X3 38
58
22
5V2
X1 24
10
38
5V4
1
X2 63
44
65
1
2
K20 Engine Control Module

Ignition Controls - Ignition System Coils 1, 3, 5, and 7

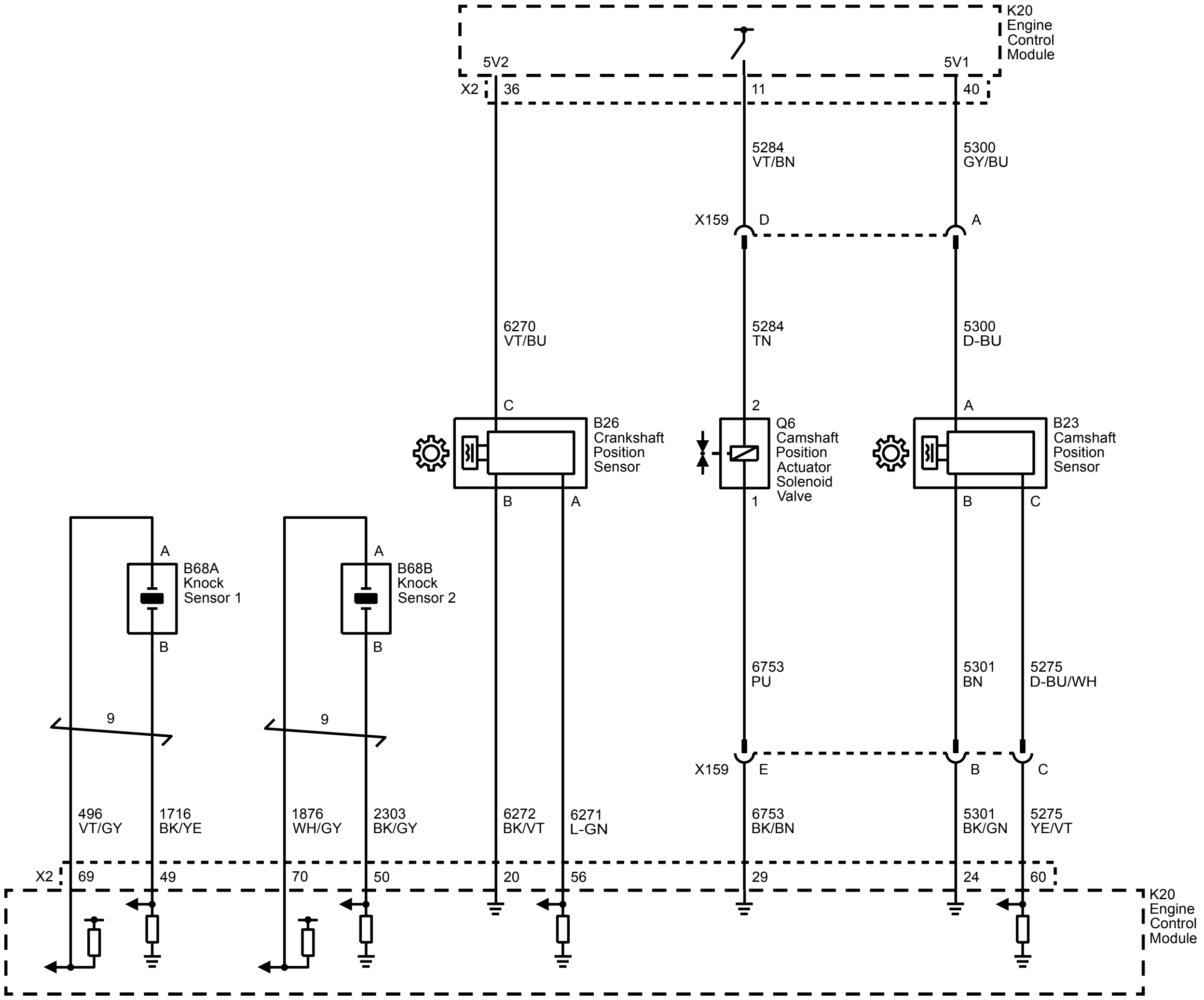

X50A
Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F44UA
20A
X2
K3
5291
VT/D-BU
J149
5291
VT/D-BU
X170
H
39
PK
K20
Engine Control Module
X2
1
55
34
33
35
2121
BU/VT
2123
GN/BU
2125
BU/GY
2127
GN/GY
2129
BK/BU
G
F
C
B
E
J107
39
PK
2121
PU
39
PK
2123
L-BU
39
PK
2125
D-GN
39
PK
2127
RD
2129
BN
D
C
T8A
Ignition Coil 1
D
C
T8C
Ignition Coil 3
D
C
T8E
Ignition Coil 5
D
C
T8G
Ignition Coil 7
A
B
A
B
A
B
A
B
151
BK
2129
BN
151
BK
2129
BN
151
BK
2129
BN
151
BK
2129
BN
J109
G110

Ignition Controls - Ignition System Coils 2, 4, 6, and 8

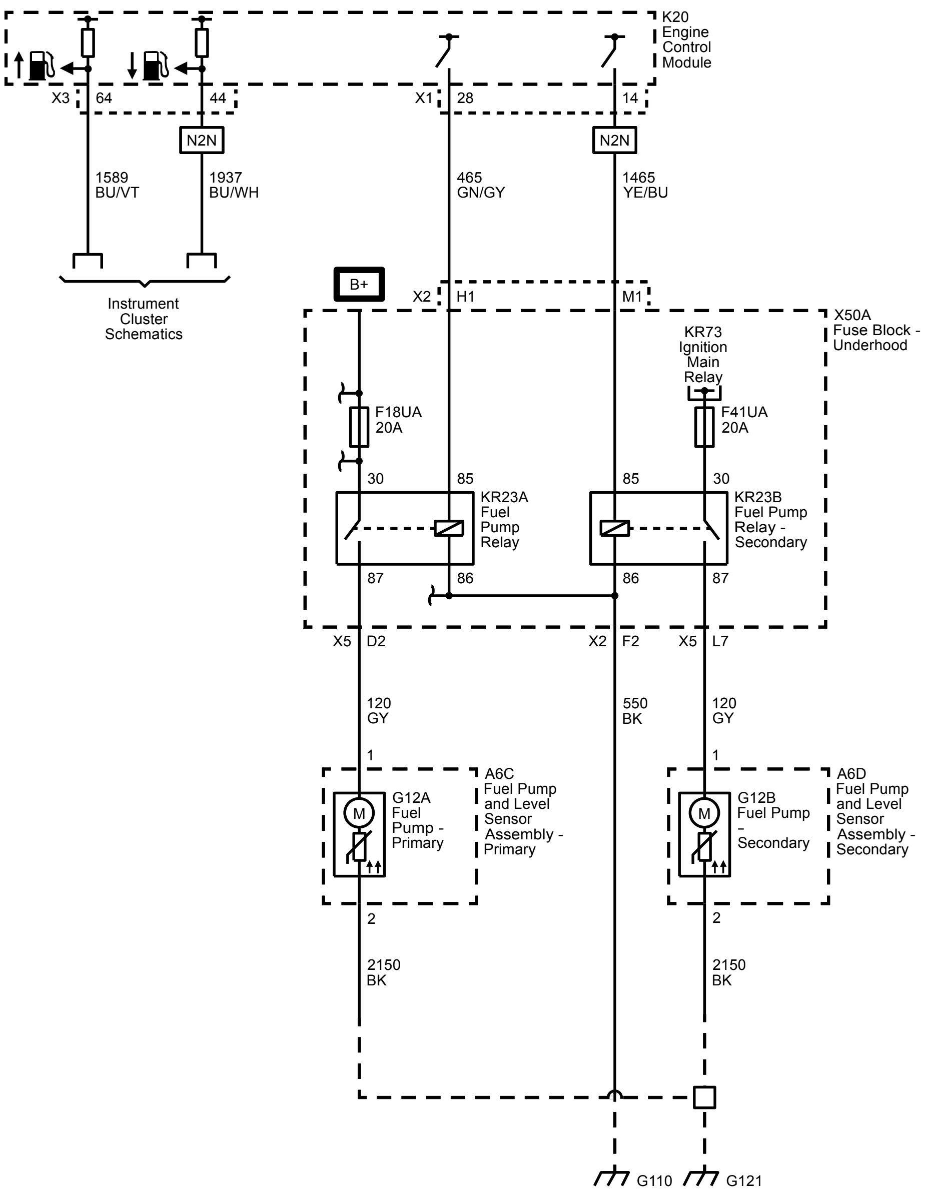

X50A
Fuse Block -
Underhood
KR75
Engine Controls
Ignition Relay
F45UA
20A
X2
K5
5292
VT/D-BU
J148
5292
VT/D-BU
X171
H
39
PK
K20
Engine
Control
Module
X2
53
18
54
17
19
2122
BU/WH
2124
YE/BU
2126
BN/BU
2128
VT/WH
2130
BK/GY
B
C
F
G
E
J106
39
PK
2122
RD
39
PK
2124
D-GN
39
PK
2126
L-BU
39
PK
2128
PU
2130
BN
D
C
T8B
Ignition
Coil 2
D
C
T8D
Ignition
Coil 4
D
C
T8F
Ignition
Coil 6
D
C
T8H
Ignition
Coil 8
A
B
A
B
A
B
A
B
151
BK
2130
BN
151
BK
2130
BN
151
BK
2130
BN
151
BK
2130
BN
J112
G110

Ignition Controls - Sensors

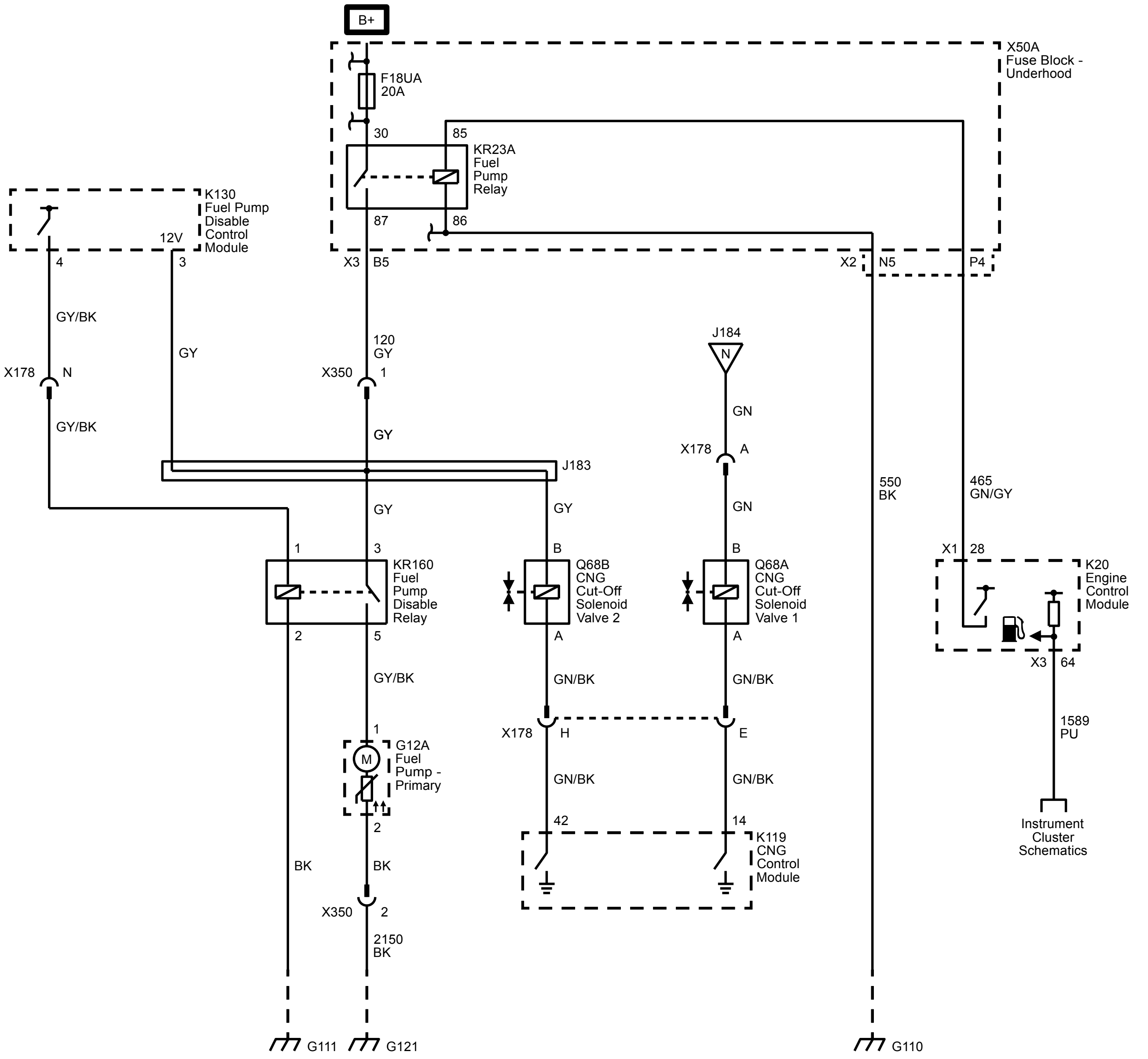
LOC
DESC


K20 Engine Control Module
5V2
5V1
X2
36
11
40
5284 VT/BN
5300 GY/BU
X159
D
A
6270 VT/BU
5284 TN
5300 D-BU
C
2
A
B26 Crankshaft Position Sensor
Q6 Camshaft Position Actuator Solenoid Valve
B23 Camshaft Position Sensor
B
A
1
B
C
A
B68A Knock Sensor 1
B
A
B68B Knock Sensor 2
B
9
9
6753 PU
5301 BN
5275 D-BU/WH
X159
E
B
C
496 VT/GY
1716 BK/YE
1876 WH/GY
2303 BK/GY
6272 BK/VT
6271 L-GN
6753 BK/BN
5301 BK/GN
5275 YE/VT
X2
69
49
70
50
20
56
29
24
60
K20 Engine Control Module

Fuel Controls - Fuel Pump (L96)

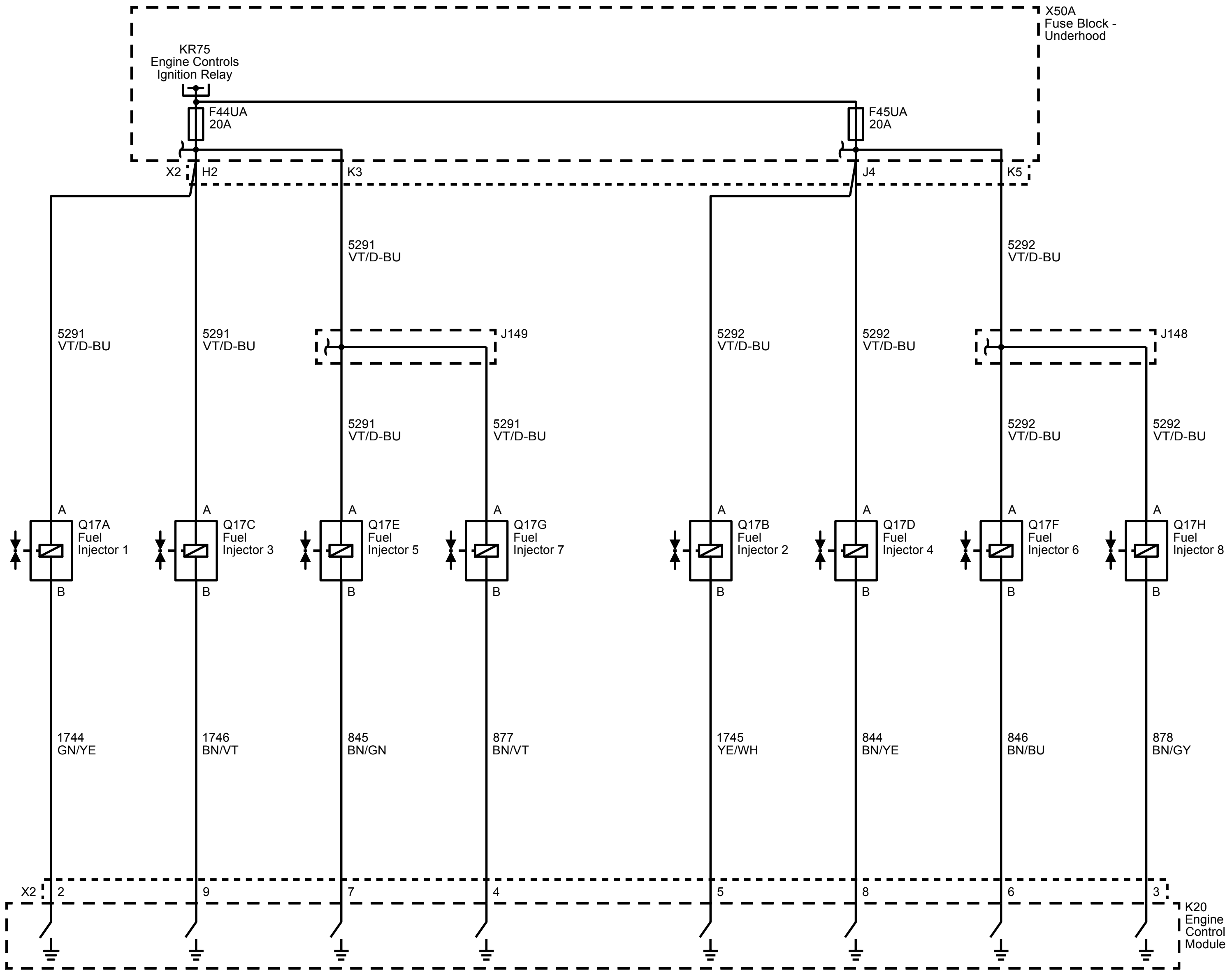

K20
Engine
Control
Module
X3
64
44
N2N
1589
BU/VT
1937
BU/WH
Instrument
Cluster
Schematics
X1
28
465
GN/GY
14
N2N
1465
YE/BU
B+
X2
H1
M1
X50A
Fuse Block -
Underhood
KR73
Ignition
Main
Relay
F18UA
20A
F41UA
20A
30
85
85
30
KR23A
Fuel
Pump
Relay
KR23B
Fuel Pump
Relay -
Secondary
87
86
86
87
X5
D2
X2
F2
X5
L7
120
GY
550
BK
120
GY
1
1
A6C
Fuel Pump
and Level
Sensor
Assembly -
Primary
G12A
Fuel
Pump -
Primary
M
A6D
Fuel Pump
and Level
Sensor
Assembly -
Secondary
G12B
Fuel Pump
-
Secondary
M
2
2
2150
BK
2150
BK
G110
G121

Fuel Controls - Fuel Pump (LC8)

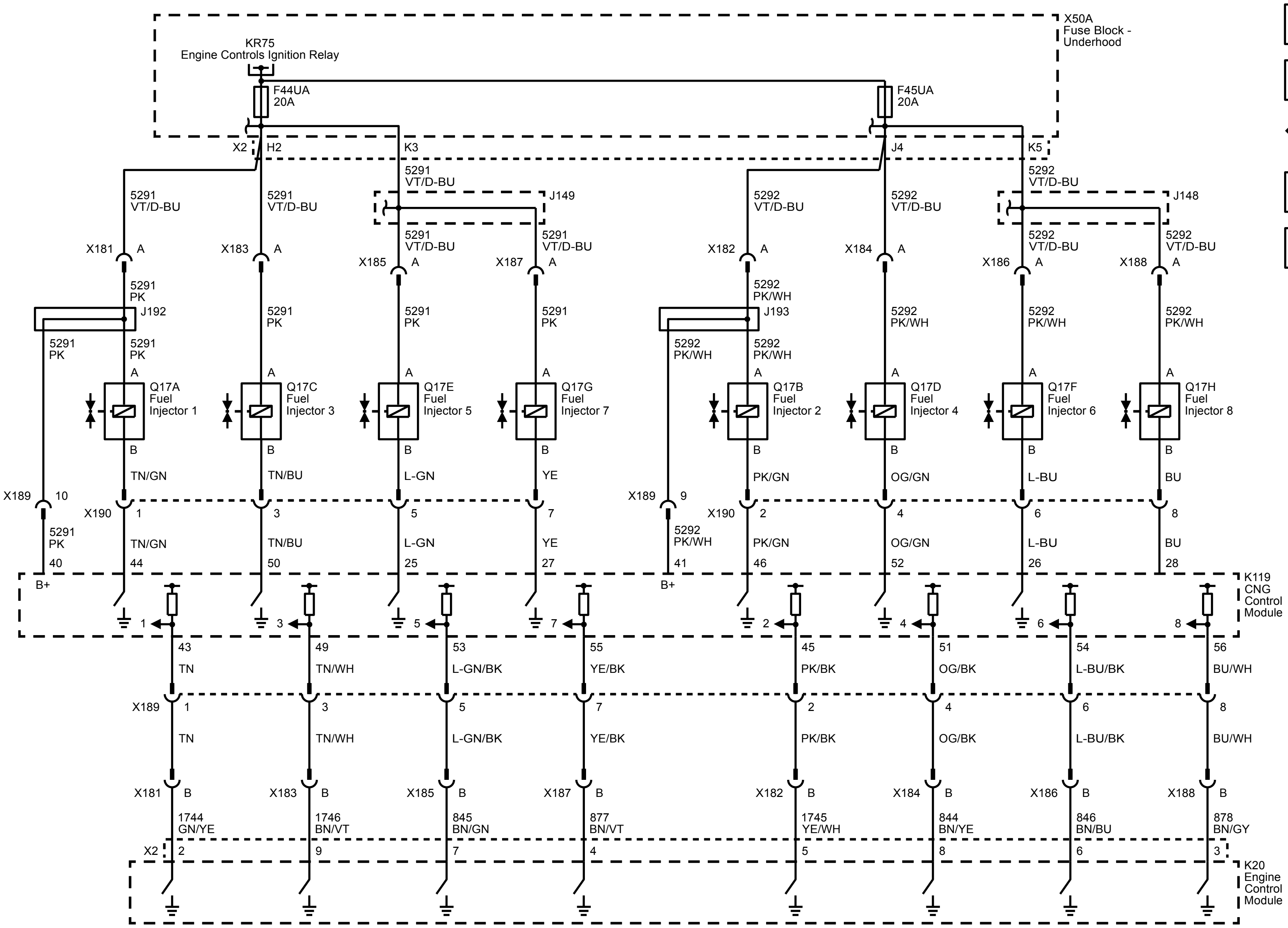


B+
X50A
Fuse Block - Underhood
F18UA
20A
30
85
KR23A
Fuel
Pump
Relay
87
86
K130
Fuel Pump
Disable
Control
Module
12V
4
3
X3
B5
X2
N5
P4
GY/BK
GY
120
GY
X178
N
X350
1
GY/BK
GY
J184
N
GN
X178
A
GN
J183
GY
GY
550
BK
465
GN/GY
1
3
B
B
X1
28
KR160
Fuel
Pump
Disable
Relay
Q68B
CNG
Cut-Off
Solenoid
Valve 2
Q68A
CNG
Cut-Off
Solenoid
Valve 1
K20
Engine
Control
Module
2
5
A
A
X3
64
GY/BK
GN/BK
GN/BK
1
X178
H
E
1589
PU
G12A
Fuel
Pump -
Primary
M
GN/BK
GN/BK
2
42
14
Instrument
Cluster
Schematics
K119
CNG
Control
Module
BK
BK
X350
2
2150
BK
G111
G121
G110

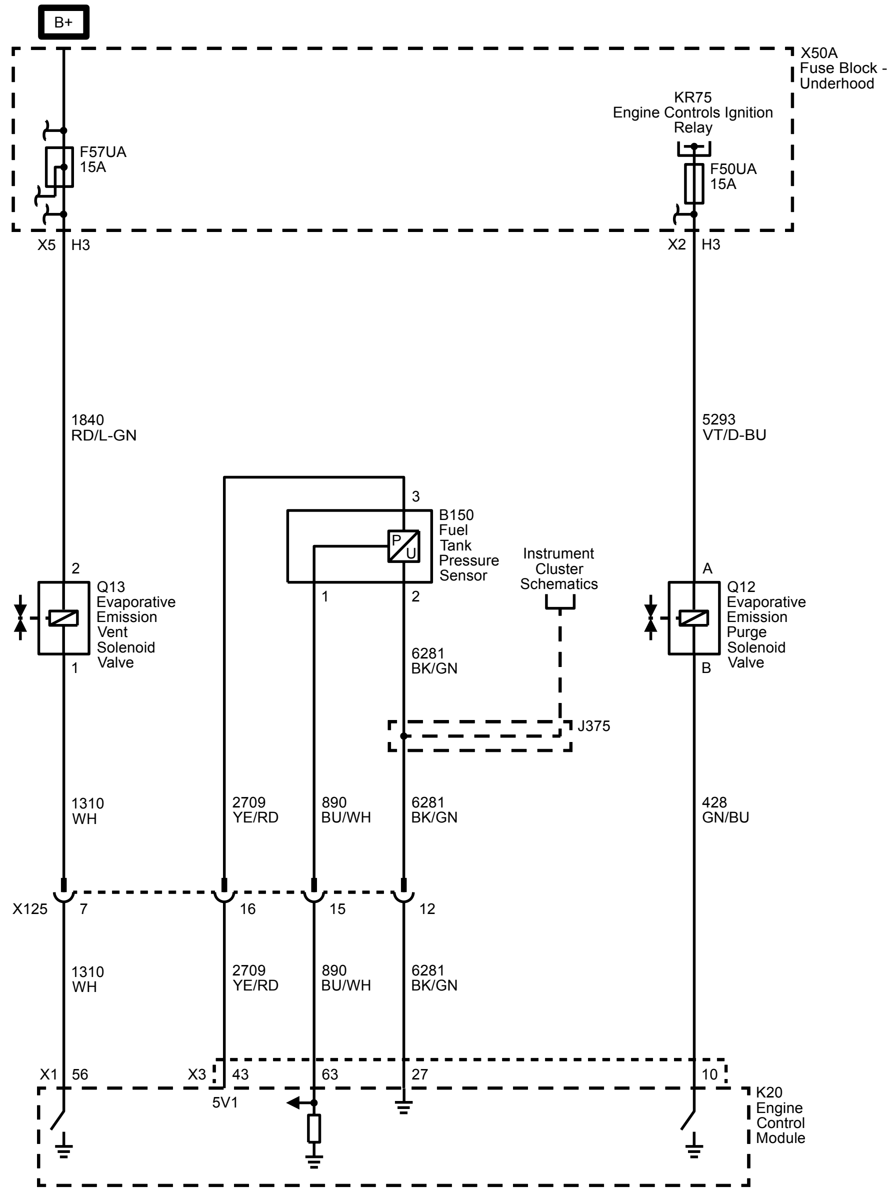
Fuel Controls - Fuel Injectors (L96)


X50A
Fuse Block -
Underhood
KR75
Engine Controls
Ignition Relay
F44UA
20A
F45UA
20A
X2
H2
K3
J4
K5
5291
VT/D-BU
J149
J148
5292
VT/D-BU
A
Q17A
Fuel
Injector 1
B
Q17C
Fuel
Injector 3
Q17E
Fuel
Injector 5
Q17G
Fuel
Injector 7
Q17B
Fuel
Injector 2
Q17D
Fuel
Injector 4
Q17F
Fuel
Injector 6
Q17H
Fuel
Injector 8
1744
GN/YE
1746
BN/VT
845
BN/GN
877
BN/VT
1745
YE/WH
844
BN/YE
846
BN/BU
878
BN/GY
X2
2
9
7
4
5
8
6
3
K20
Engine
Control
Module

Fuel Controls - Fuel Injectors (LC8)



X50A Fuse Block - Underhood
KR75 Engine Controls Ignition Relay
F44UA 20A
F45UA 20A
X2 H2 K3 J4 K5
5291 VT/D-BU
5292 VT/D-BU
J149
J148
X181 A
X183 A
X185 A
X187 A
X182 A
X184 A
X186 A
X188 A
5291 PK
5292 PK/WH
J192
J193
Q17A Fuel Injector 1
Q17C Fuel Injector 3
Q17E Fuel Injector 5
Q17G Fuel Injector 7
Q17B Fuel Injector 2
Q17D Fuel Injector 4
Q17F Fuel Injector 6
Q17H Fuel Injector 8
A B
TN/GN
TN/BU
L-GN
YE
PK/GN
OG/GN
L-BU
BU
X189 10
X189 9
X190 1 3 5 7 2 4 6 8
40 44 50 25 27 41 46 52 26 28
B+
K119 CNG Control Module
1 3 5 7 2 4 6 8
43 49 53 55 45 51 54 56
TN
TN/WH
L-GN/BK
YE/BK
PK/BK
OG/BK
L-BU/BK
BU/WH
X189 1 3 5 7 2 4 6 8
X181 B
X183 B
X185 B
X187 B
X182 B
X184 B
X186 B
X188 B
1744 GN/YE
1746 BN/VT
845 BN/GN
877 BN/VT
1745 YE/WH
844 BN/YE
846 BN/BU
878 BN/GY
X2 2 9 7 4 5 8 6 3
K20 Engine Control Module


B+
X50A
Fuse Block -
Underhood
KR75
Engine Controls Ignition
Relay
F57UA
15A
F50UA
15A
X5
H3
X2
H3
1840
RD/L-GN
5293
VT/D-BU
3
B150
Fuel
Tank
Pressure
Sensor
P
U
Instrument
Cluster
Schematics
2
Q13
Evaporative
Emission
Vent
Solenoid
Valve
1
1
2
A
Q12
Evaporative
Emission
Purge
Solenoid
Valve
B
6281
BK/GN
J375
1310
WH
2709
YE/RD
890
BU/WH
6281
BK/GN
428
GN/BU
X125
7
16
15
12
1310
WH
2709
YE/RD
890
BU/WH
6281
BK/GN
X1
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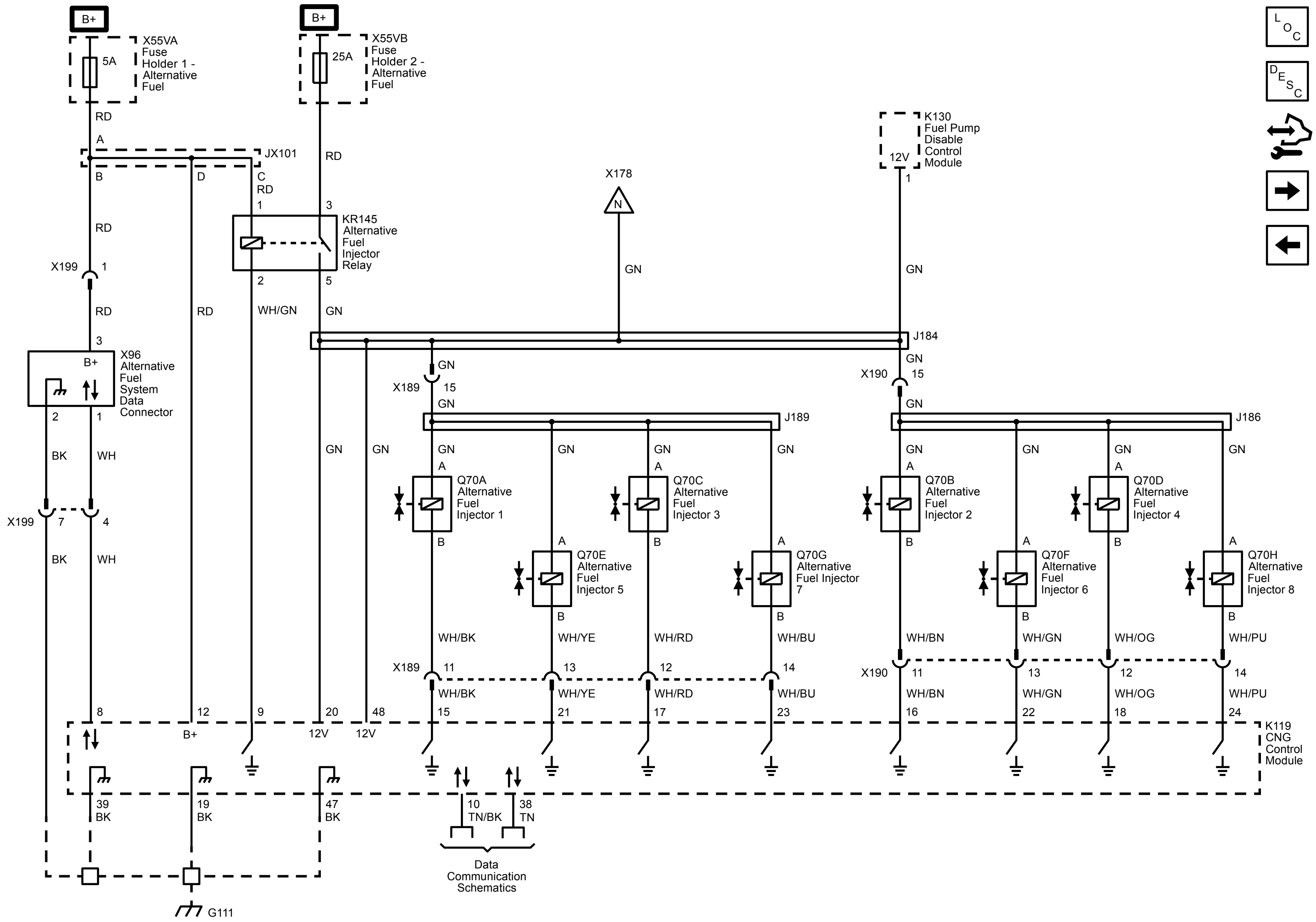
X3
43
63
27
10
5V1
K20
Engine
Control
Module

Power, Ground and Alternative Fuel Injectors (LC8)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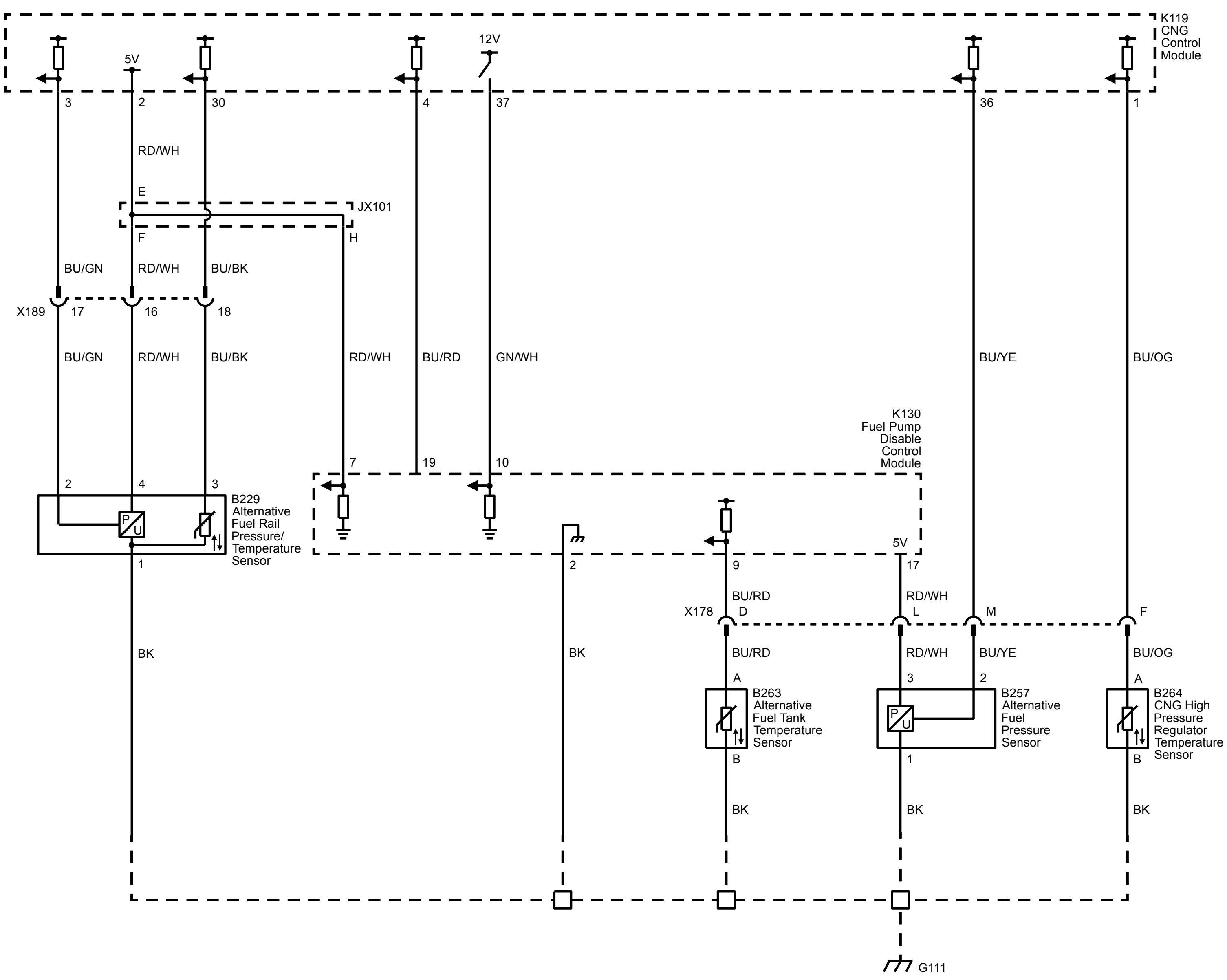
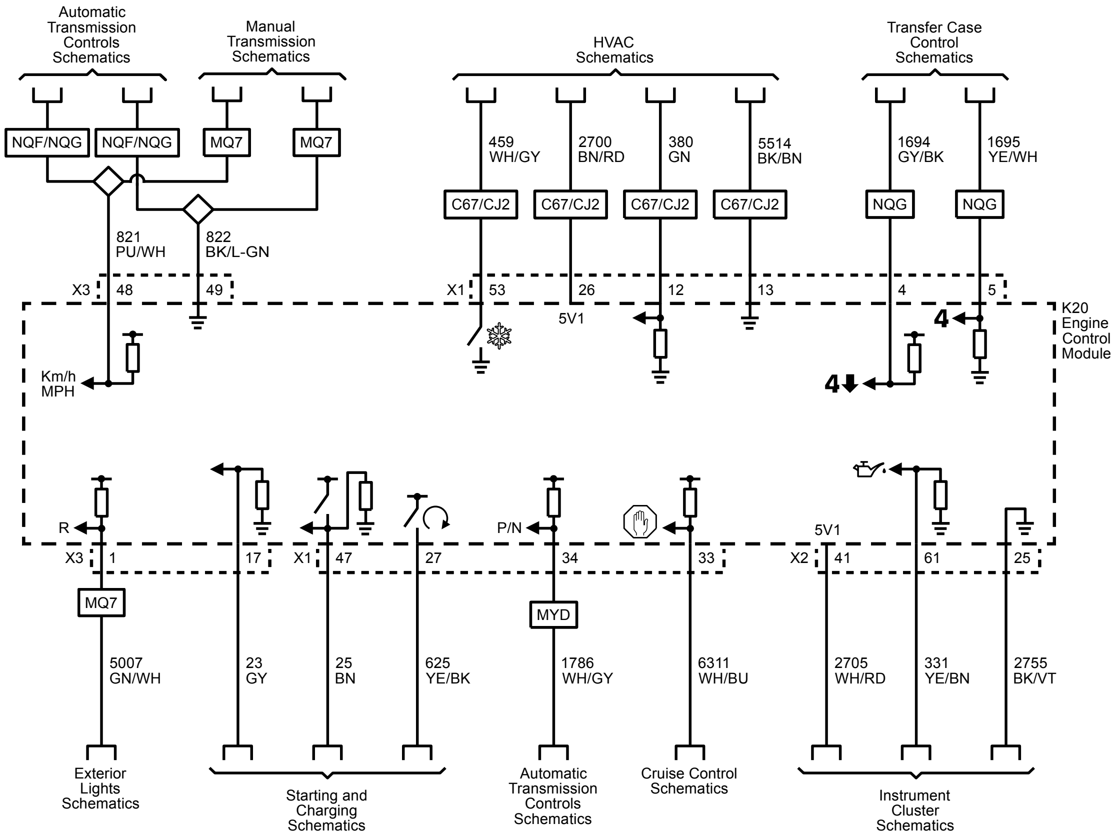
X55VA Fuse Holder 1 - Alternative Fuel
5A
RD
A
JX101
B
D
C
RD
1
B+
X55VB Fuse Holder 2 - Alternative Fuel
25A
RD
3
KR145 Alternative Fuel Injector Relay
2
5
WH/GN
GN
RD
X199
1
RD
RD
3
B+
X96 Alternative Fuel System Data Connector
2
1
BK
WH
X199
7
4
BK
WH
X178
N
GN
K130 Fuel Pump Disable Control Module
12V
1
GN
J184
GN
X189
15
GN
J189
GN
X190
15
GN
J186
GN
GN
GN
A
Q70A Alternative Fuel Injector 1
B
GN
A
Q70E Alternative Fuel Injector 5
B
GN
A
Q70C Alternative Fuel Injector 3
B
GN
A
Q70G Alternative Fuel Injector 7
B
GN
A
Q70B Alternative Fuel Injector 2
B
GN
A
Q70F Alternative Fuel Injector 6
B
GN
A
Q70D Alternative Fuel Injector 4
B
GN
A
Q70H Alternative Fuel Injector 8
B
WH/BK
WH/YE
WH/RD
WH/BU
WH/BN
WH/GN
WH/OG
WH/PU
X189
11
13
12
14
X190
11
13
12
14
WH/BK
WH/YE
WH/RD
WH/BU
WH/BN
WH/GN
WH/OG
WH/PU
8
12
9
20
48
15
21
17
23
16
22
18
24
B+
12V
12V
K119 CNG Control Module
39
BK
19
BK
47
BK
10
TN/BK
38
TN
Data Communication Schematics
G111

CNG Pressure and Temperature (LC8)


K119
CNG
Control
Module
5V
12V
3
2
30
4
37
36
1
RD/WH
E
JX101
F
H
BU/GN
RD/WH
BU/BK
X189
17
16
18
BU/GN
RD/WH
BU/BK
RD/WH
BU/RD
GN/WH
BU/YE
BU/OG
K130
Fuel Pump
Disable
Control
Module
7
19
10
2
4
3
B229
Alternative
Fuel Rail
Pressure/
Temperature
Sensor
P
U
1
5V
2
9
17
BU/RD
RD/WH
X178
D
L
M
F
BK
BK
BU/RD
RD/WH
BU/YE
BU/OG
A
3
2
A
B263
Alternative
Fuel Tank
Temperature
Sensor
B257
Alternative
Fuel
Pressure
Sensor
P
U
B264
CNG High
Pressure
Regulator
Temperature
Sensor
B
1
B
BK
BK
BK
G111

LOC
DESC

Controlled/Monitored Subsystem References


Automatic Transmission Controls Schematics
Manual Transmission Schematics
HVAC Schematics
Transfer Case Control Schematics
NQF/NQG
NQF/NQG
MQ7
MQ7
459 WH/GY
2700 BN/RD
380 GN
5514 BK/BN
1694 GY/BK
1695 YE/WH
C67/CJ2
C67/CJ2
C67/CJ2
C67/CJ2
NQG
NQG
821 PU/WH
822 BK/L-GN
X3
48
49
X1
53
26
12
13
4
5
5V1
4
4
K20 Engine Control Module
Km/h MPH
R
X3
1
17
X1
47
27
P/N
34
33
5V1
X2
41
61
25
MQ7
MYD
5007 GN/WH
23 GY
25 BN
625 YE/BK
1786 WH/GY
6311 WH/BU
2705 WH/RD
331 YE/BN
2755 BK/VT
Exterior Lights Schematics
Starting and Charging Schematics
Automatic Transmission Controls Schematics
Cruise Control Schematics
Instrument Cluster Schematics

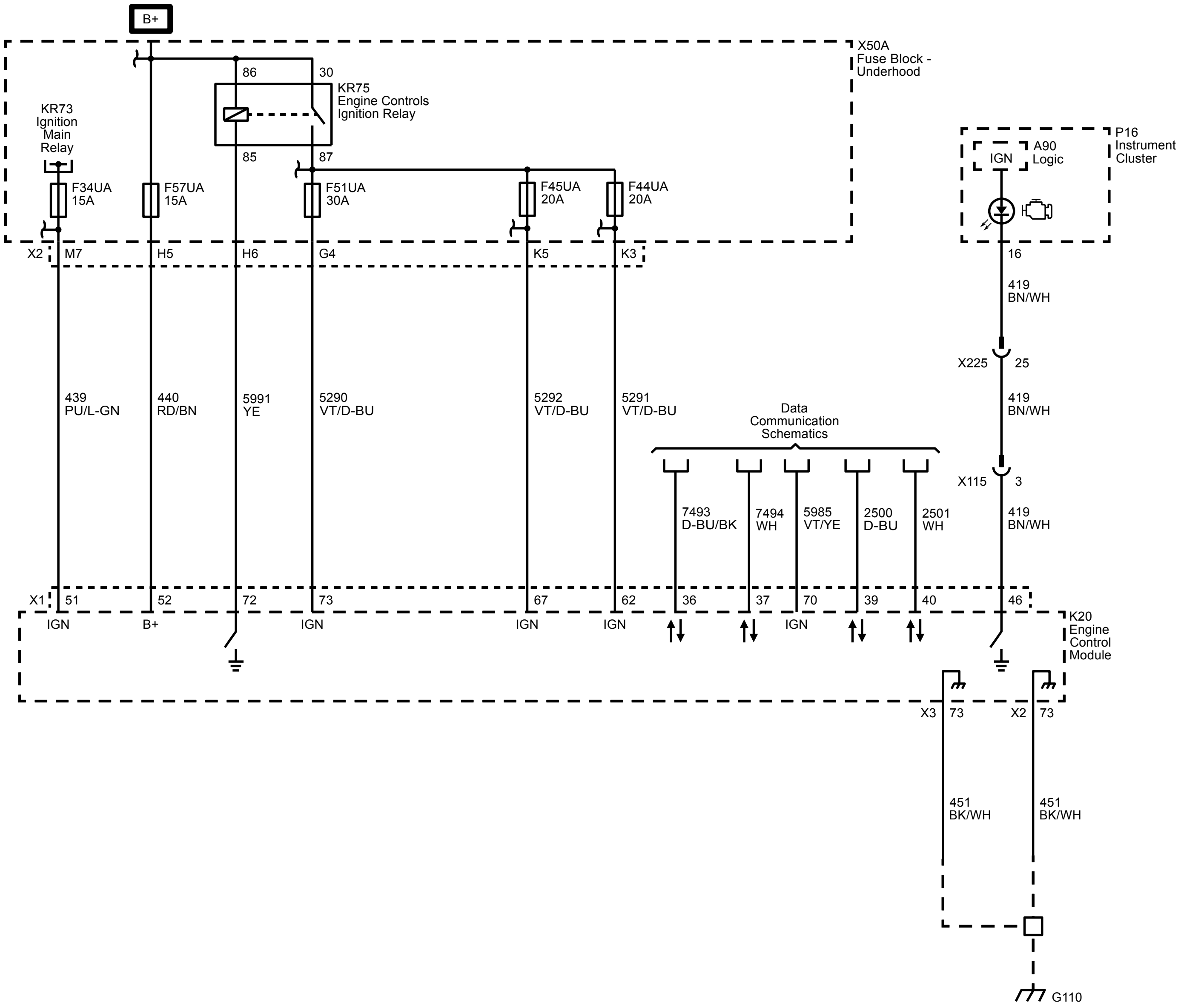
Engine/Propulsion

Engine Controls and Fuel - 5.3L (L83 L8B) or 6.2L (L86)

Schematic and Routing Diagrams

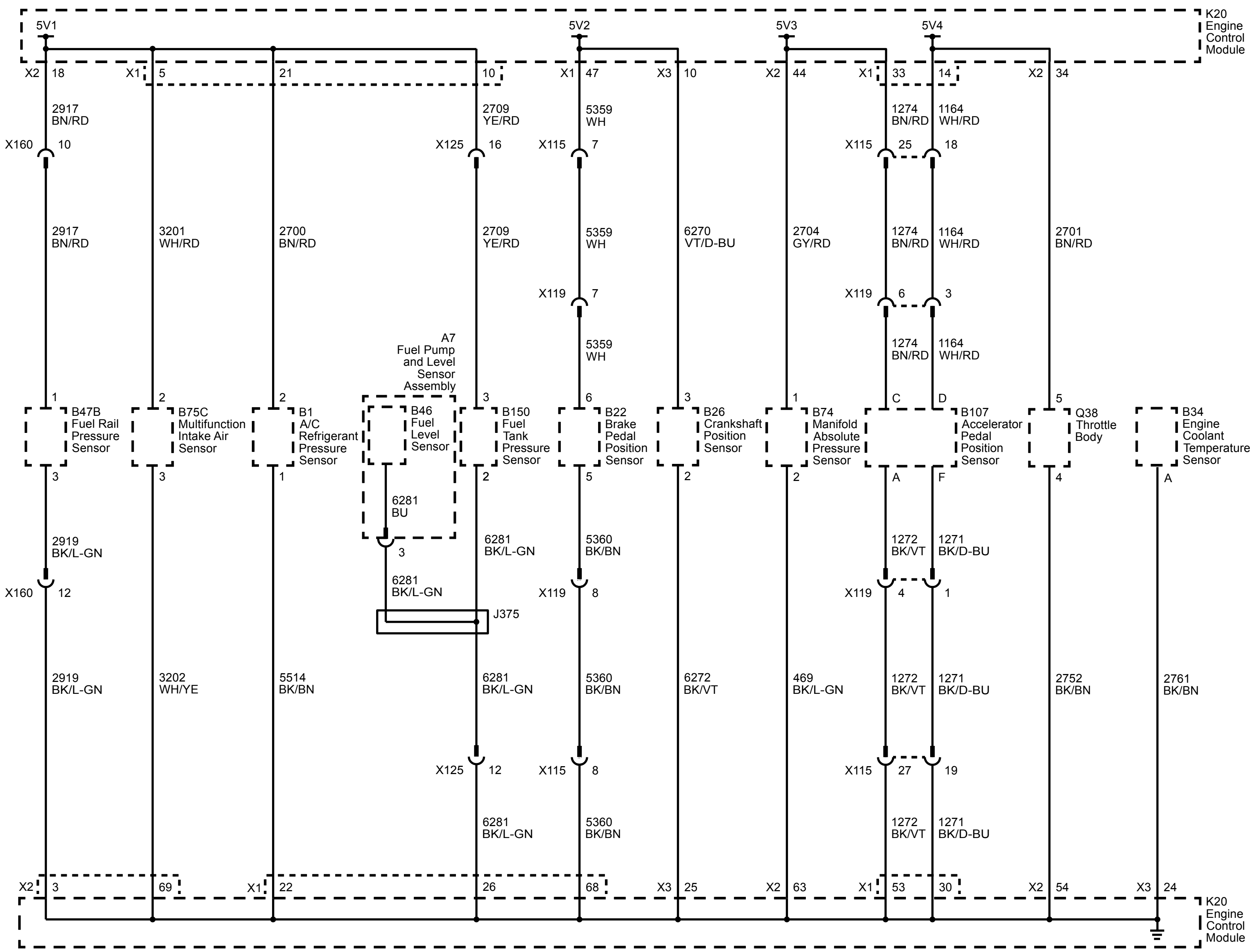
Engine Controls Schematics

Module Power, Ground, Serial Data and MIL



B+
X50A
Fuse Block - Underhood
86
30
KR75
Engine Controls Ignition Relay
85
87
KR73
Ignition
Main
Relay
F34UA
15A
F57UA
15A
F51UA
30A
F45UA
20A
F44UA
20A
X2
M7
H5
H6
G4
K5
K3
439
PU/L-GN
440
RD/BN
5991
YE
5290
VT/D-BU
5292
VT/D-BU
5291
VT/D-BU
P16
Instrument Cluster
A90
Logic
IGN
16
419
BN/WH
X225
25
419
BN/WH
X115
3
419
BN/WH
Data
Communication
Schematics
7493
D-BU/BK
7494
WH
5985
VT/YE
2500
D-BU
2501
WH
X1
51
52
72
73
67
62
36
37
70
39
40
46
IGN
B+
IGN
IGN
IGN
IGN
K20
Engine
Control
Module
X3
73
X2
73
451
BK/WH
451
BK/WH
G110

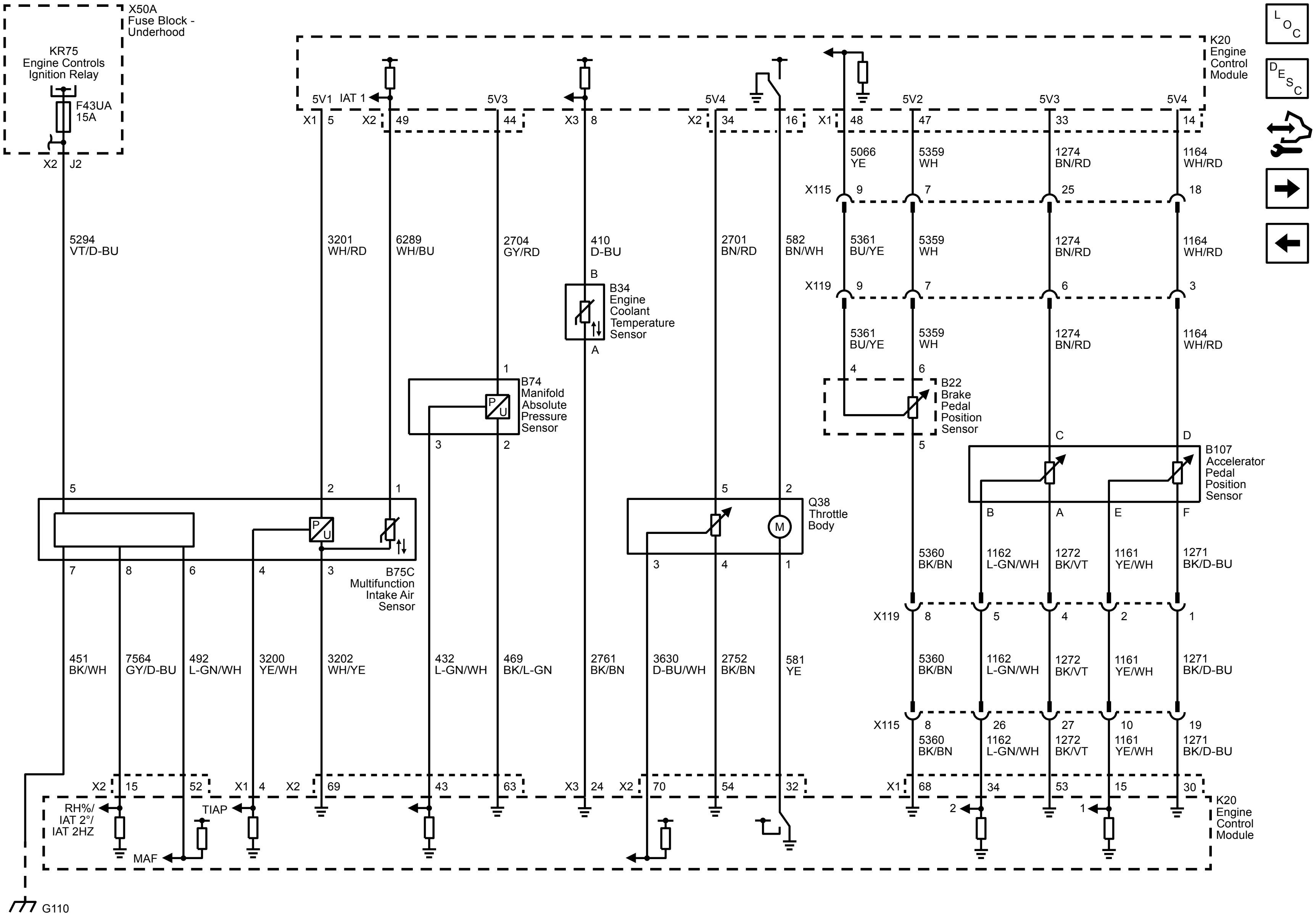
5V and Low Reference Busses



K20 Engine Control Module
5V1
5V2
5V3
5V4
X2 18
X1 5
21
10
X1 47
X3 10
X2 44
X1 33
14
X2 34
2917 BN/RD
2709 YE/RD
5359 WH
1274 BN/RD
1164 WH/RD
X160 10
X125 16
X115 7
X115 25
18
2917 BN/RD
3201 WH/RD
2700 BN/RD
2709 YE/RD
5359 WH
6270 VT/D-BU
2704 GY/RD
1274 BN/RD
1164 WH/RD
2701 BN/RD
X119 7
X119 6
3
5359 WH
1274 BN/RD
1164 WH/RD
A7 Fuel Pump and Level Sensor Assembly
1
2
2
3
6
3
1
C
D
5
B47B Fuel Rail Pressure Sensor
B75C Multifunction Intake Air Sensor
B1 A/C Refrigerant Pressure Sensor
B46 Fuel Level Sensor
B150 Fuel Tank Pressure Sensor
B22 Brake Pedal Position Sensor
B26 Crankshaft Position Sensor
B74 Manifold Absolute Pressure Sensor
B107 Accelerator Pedal Position Sensor
Q38 Throttle Body
B34 Engine Coolant Temperature Sensor
3
3
1
2
5
2
2
A
F
4
A
6281 BU
3
6281 BK/L-GN
J375
2919 BK/L-GN
6281 BK/L-GN
5360 BK/BN
1272 BK/VT
1271 BK/D-BU
X160 12
X119 8
X119 4
1
2919 BK/L-GN
3202 WH/YE
5514 BK/BN
6281 BK/L-GN
5360 BK/BN
6272 BK/VT
469 BK/L-GN
1272 BK/VT
1271 BK/D-BU
2752 BK/BN
2761 BK/BN
X125 12
X115 8
X115 27
19
6281 BK/L-GN
5360 BK/BN
1272 BK/VT
1271 BK/D-BU
X2 3
69
X1 22
26
68
X3 25
X2 63
X1 53
30
X2 54
X3 24
K20 Engine Control Module

LOC
DESC
→
←

Engine Data Sensors - Pressure, Temperature and Throttle Controls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Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F43UA
15A
X2 J2
5294
VT/D-BU
K20
Engine Control Module
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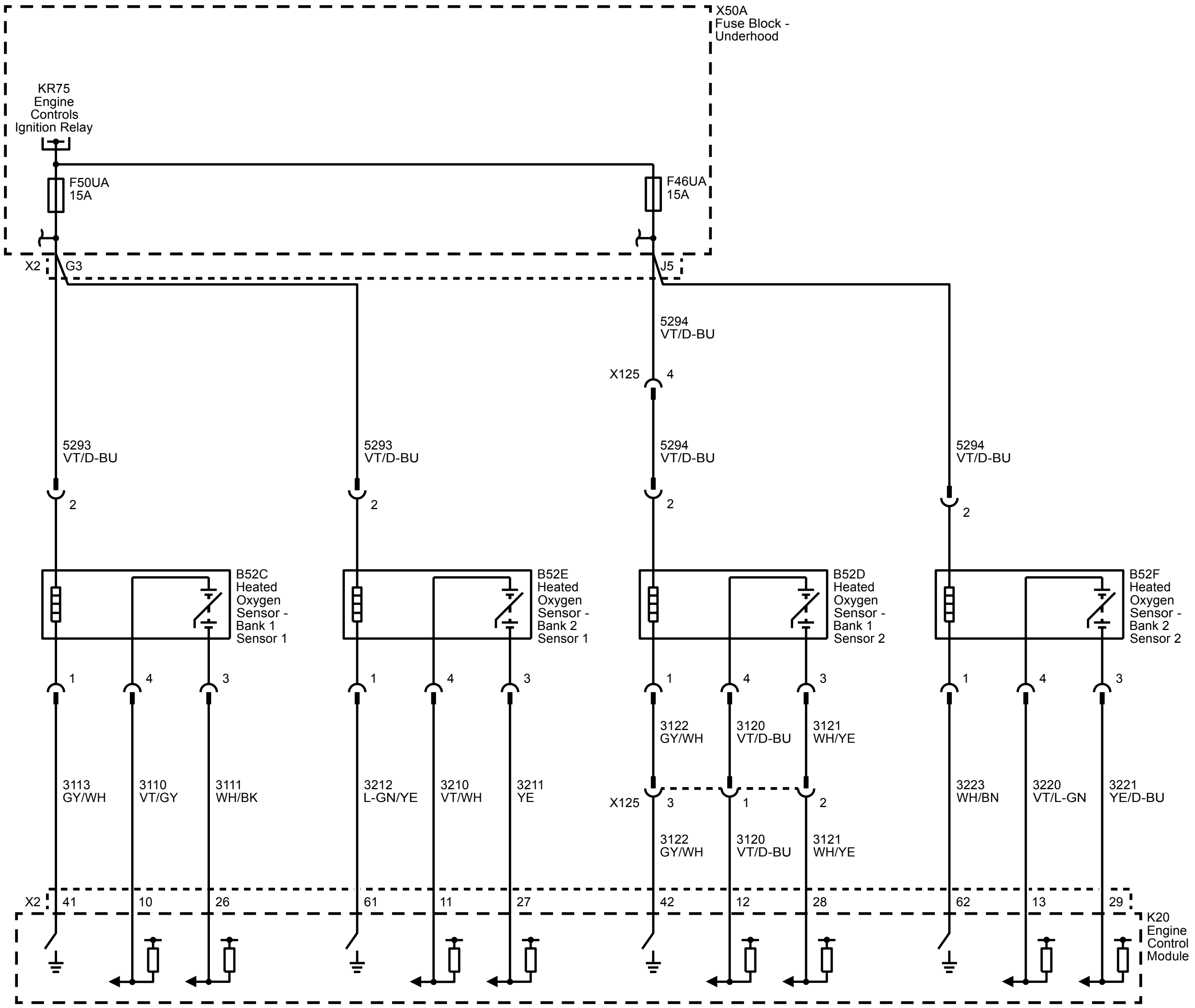
IAT 1
5V3
5V3
5V4
5V2
5V3
5V4
X1 5
X2 49
44
X3 8
X2 34
16
X1 48
47
33
14
3201
WH/RD
6289
WH/BU
2704
GY/RD
410
D-BU
2701
BN/RD
582
BN/WH
5066
YE
5359
WH
1274
BN/RD
1164
WH/RD
X115 9
7
25
18
5361
BU/YE
5359
WH
1274
BN/RD
1164
WH/RD
X119 9
7
6
3
5361
BU/YE
5359
WH
1274
BN/RD
1164
WH/RD
B
B34
Engine Coolant Temperature Sensor
A
1
B74
Manifold Absolute Pressure Sensor
3
2
4
6
B22
Brake Pedal Position Sensor
5
C
D
B107
Accelerator Pedal Position Sensor
B
A
E
F
5
2
1
B75C
Multifunction Intake Air Sensor
7
8
6
4
3
5
2
Q38
Throttle Body
M
3
4
1
5360
BK/BN
1162
L-GN/WH
1272
BK/VT
1161
YE/WH
1271
BK/D-BU
X119 8
5
4
2
1
451
BK/WH
7564
GY/D-BU
492
L-GN/WH
3200
YE/WH
3202
WH/YE
432
L-GN/WH
469
BK/L-GN
2761
BK/BN
3630
D-BU/WH
2752
BK/BN
581
YE
5360
BK/BN
1162
L-GN/WH
1272
BK/VT
1161
YE/WH
1271
BK/D-BU
X115 8
26
27
10
19
5360
BK/BN
1162
L-GN/WH
1272
BK/VT
1161
YE/WH
1271
BK/D-BU
X2 15
52
X1 4
X2 69
43
63
X3 24
X2 70
54
32
X1 68
34
53
15
30
K20
Engine Control Module
RH%/
IAT 2°/
IAT 2HZ
TIAP
MAF
2
1
G110
L O C
D E S C

Engine Data Sensors - Oxygen Sensors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Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F50UA
15A
F46UA
15A
X2
G3
J5
5294
VT/D-BU
X125
4
5293
VT/D-BU
5293
VT/D-BU
5294
VT/D-BU
5294
VT/D-BU
2
2
2
2
B52C
Heated Oxygen Sensor - Bank 1 Sensor 1
B52E
Heated Oxygen Sensor - Bank 2 Sensor 1
B52D
Heated Oxygen Sensor - Bank 1 Sensor 2
B52F
Heated Oxygen Sensor - Bank 2 Sensor 2
1
4
3
1
4
3
1
4
3
1
4
3
3122
GY/WH
3120
VT/D-BU
3121
WH/YE
3113
GY/WH
3110
VT/GY
3111
WH/BK
3212
L-GN/YE
3210
VT/WH
3211
YE
X125
3
1
2
3122
GY/WH
3120
VT/D-BU
3121
WH/YE
3223
WH/BN
3220
VT/L-GN
3221
YE/D-BU
X2
41
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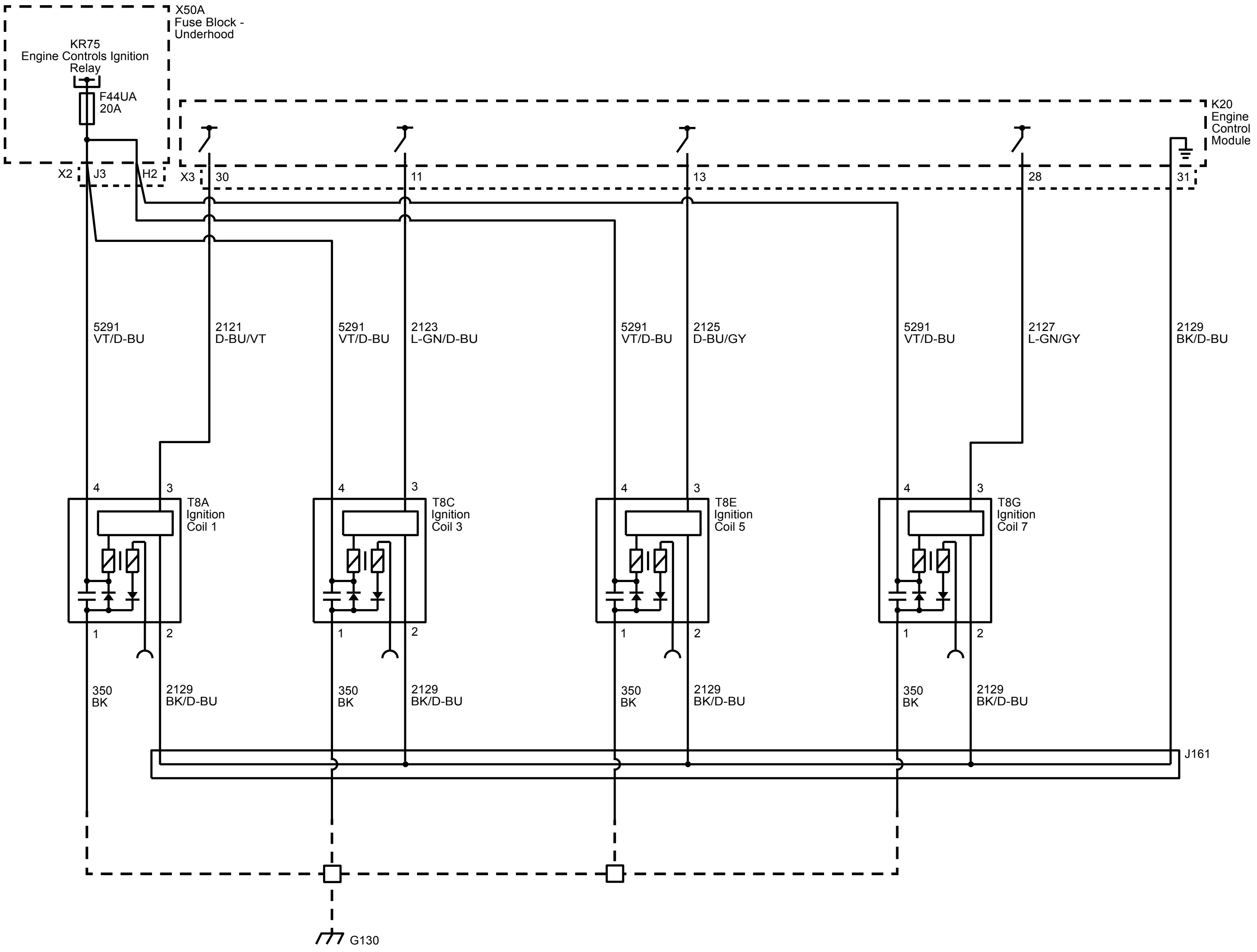
26
61
11
27
42
12
28
62
13
29
K20
Engine Control Module

Ignition Controls - Ignition Coils Bank 1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Fuse Block -
Underhood
KR75
Engine Controls Ignition
Relay
F44UA
20A
X2
J3
H2
X3
30
11
13
28
31
K20
Engine
Control
Module
5291
VT/D-BU
2121
D-BU/VT
5291
VT/D-BU
2123
L-GN/D-BU
5291
VT/D-BU
2125
D-BU/GY
5291
VT/D-BU
2127
L-GN/GY
2129
BK/D-BU
4
3
T8A
Ignition
Coil 1
4
3
T8C
Ignition
Coil 3
4
3
T8E
Ignition
Coil 5
4
3
T8G
Ignition
Coil 7
1
2
1
2
1
2
1
2
350
BK
2129
BK/D-BU
350
BK
2129
BK/D-BU
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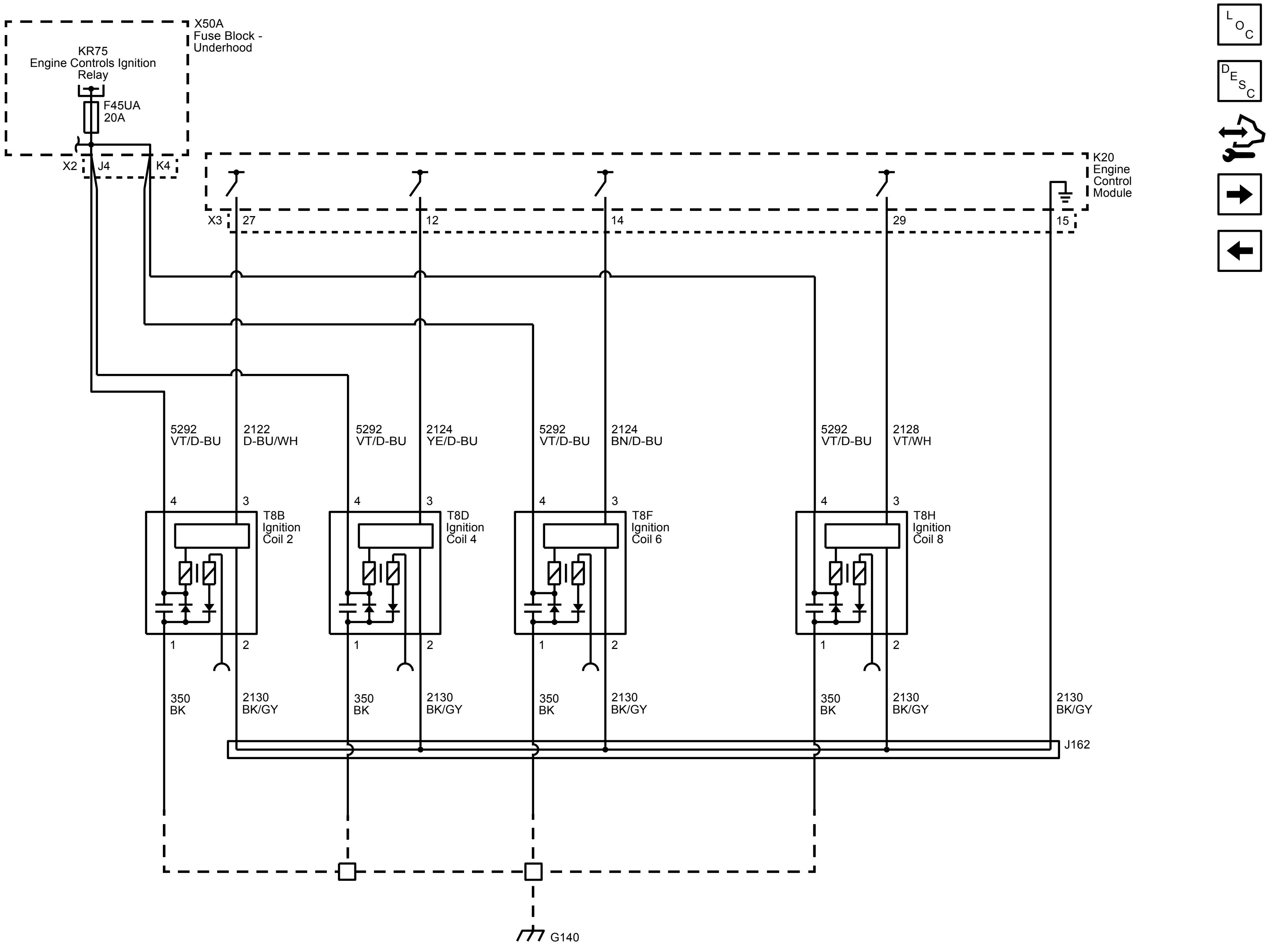
BK
2129
BK/D-BU
350
BK
2129
BK/D-BU
J161
G130

Ignition Controls - Ignition Coils Bank 2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Fuse Block -
Underhood
KR75
Engine Controls Ignition
Relay
F45UA
20A
X2
J4
K4
K20
Engine
Control
Module
X3
27
12
14
29
15
5292
VT/D-BU
2122
D-BU/WH
5292
VT/D-BU
2124
YE/D-BU
5292
VT/D-BU
2124
BN/D-BU
5292
VT/D-BU
2128
VT/WH
4
3
T8B
Ignition
Coil 2
4
3
T8D
Ignition
Coil 4
4
3
T8F
Ignition
Coil 6
4
3
T8H
Ignition
Coil 8
1
2
1
2
1
2
1
2
350
BK
2130
BK/GY
350
BK
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BK/GY
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BK/GY
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BK/GY
2130
BK/GY
J162
G140
LOC
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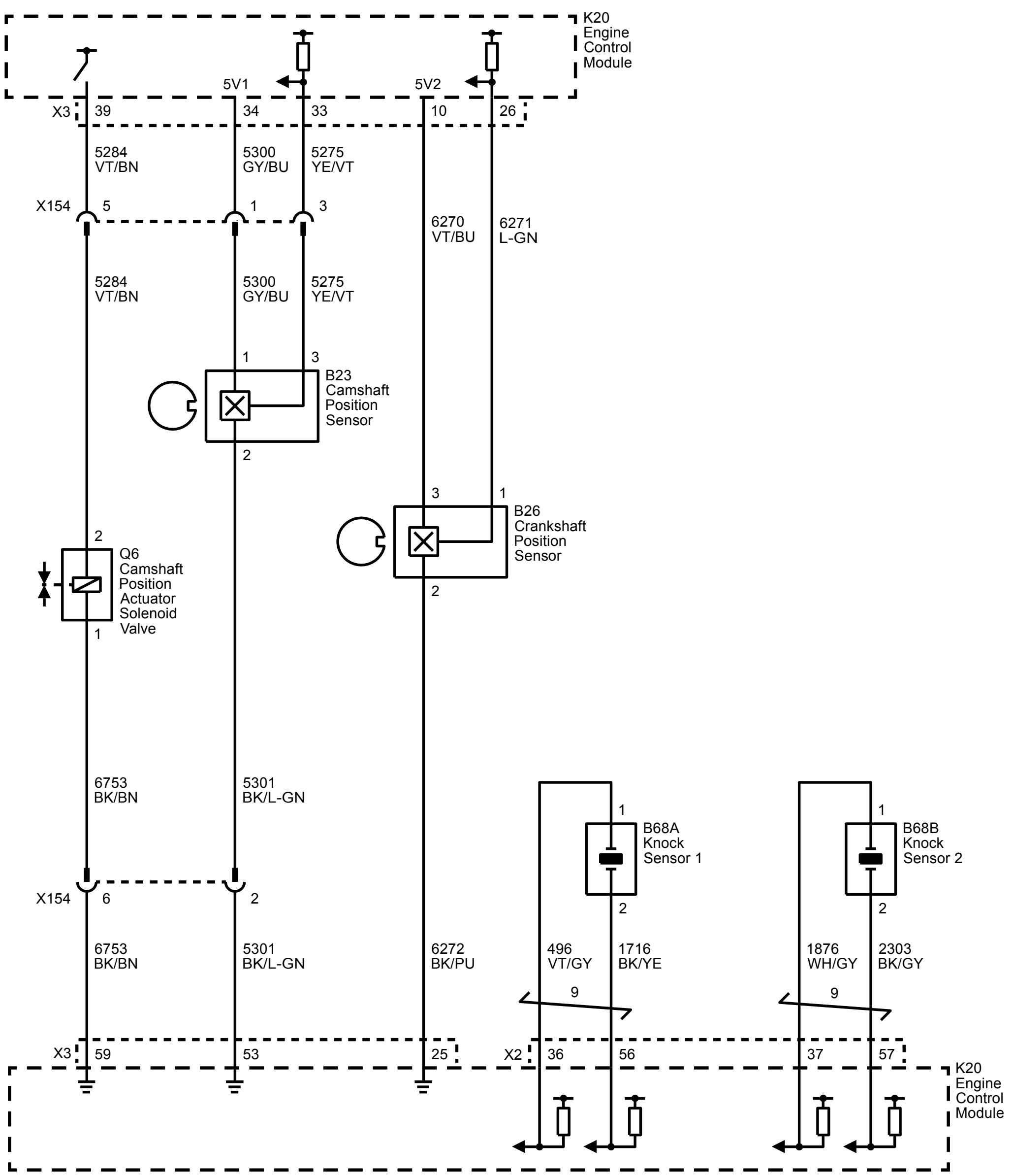
K20
Engine
Control
Module
5V1
5V2
X3
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34
33
10
26
5284
VT/BN
5300
GY/BU
5275
YE/VT
X154
5
1
3
6270
VT/BU
6271
L-GN
5284
VT/BN
5300
GY/BU
5275
YE/VT
1
3
B23
Camshaft
Position
Sensor
2
3
1
B26
Crankshaft
Position
Sensor
2
2
Q6
Camshaft
Position
Actuator
Solenoid
Valve
1
6753
BK/BN
5301
BK/L-GN
1
B68A
Knock
Sensor 1
2
1
B68B
Knock
Sensor 2
2
X154
6
2
6753
BK/BN
5301
BK/L-GN
6272
BK/PU
496
VT/GY
1716
BK/YE
1876
WH/GY
2303
BK/GY
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X3
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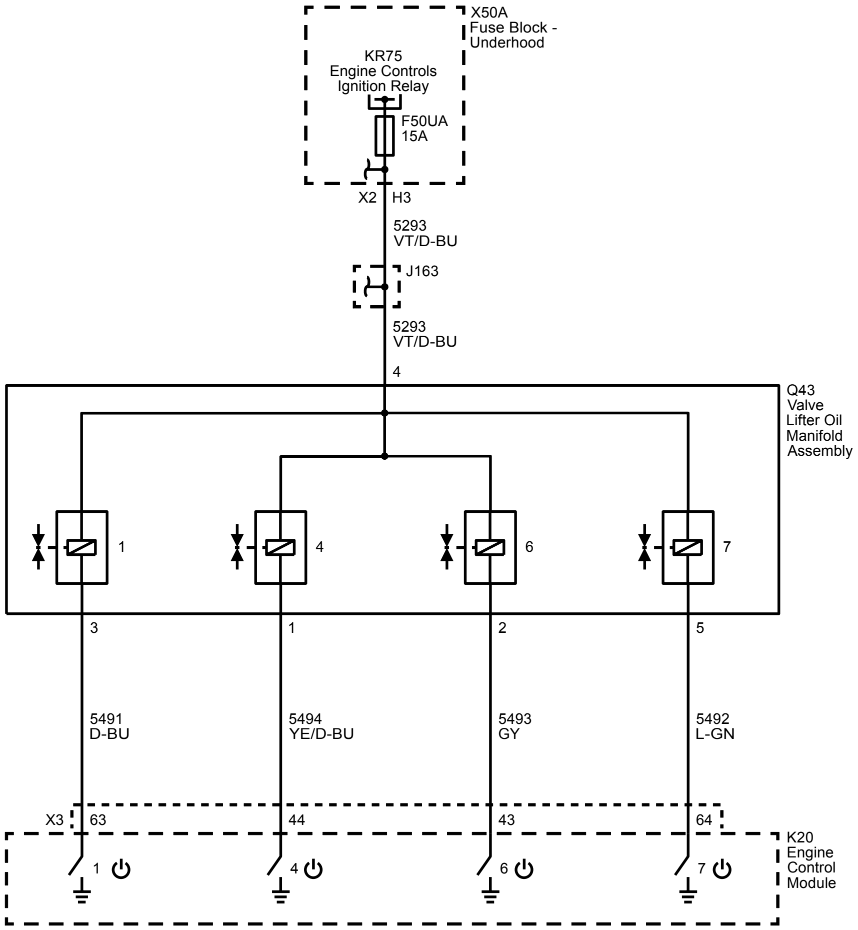
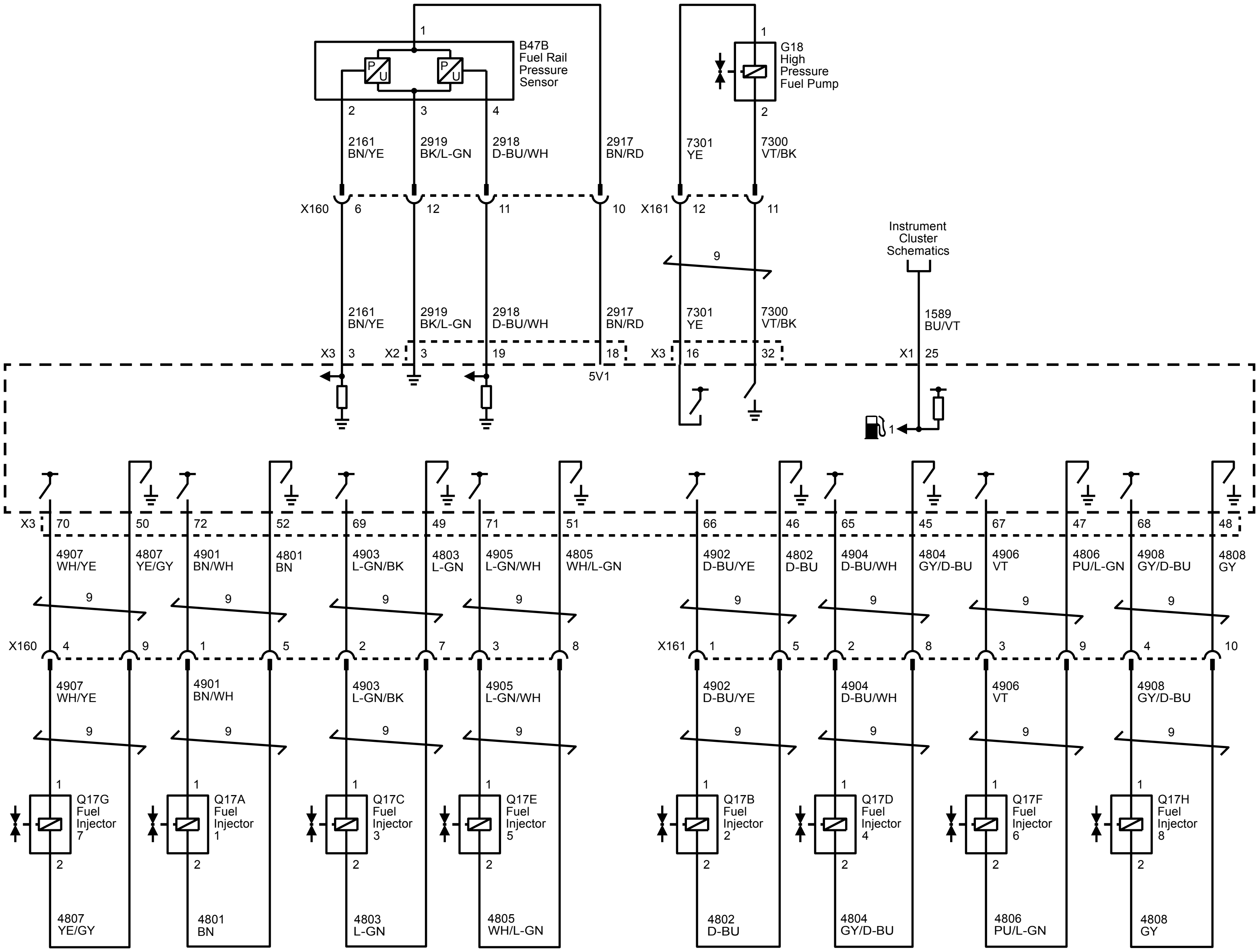
53
25
X2
36
56
37
57
K20
Engine
Control
Module

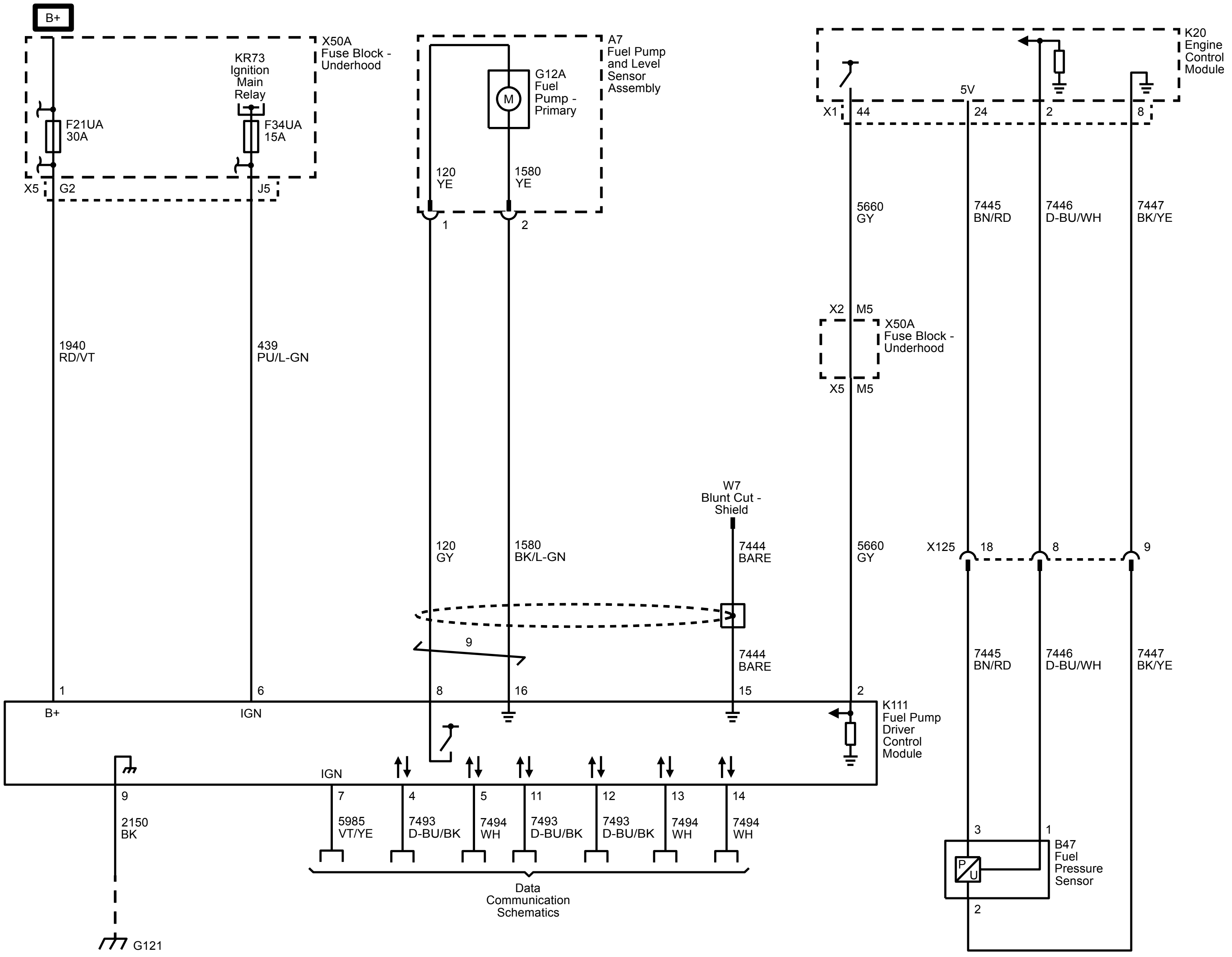
Valve Lifter Oil Manifold Assembly


X50A
Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F50UA
15A
X2
H3
5293
VT/D-BU
J163
5293
VT/D-BU
4
Q43
Valve Lifter Oil Manifold Assembly
1
4
6
7
3
1
2
5
5491
D-BU
5494
YE/D-BU
5493
GY
5492
L-GN
X3
63
44
43
64
K20
Engine Control Module
1
4
6
7

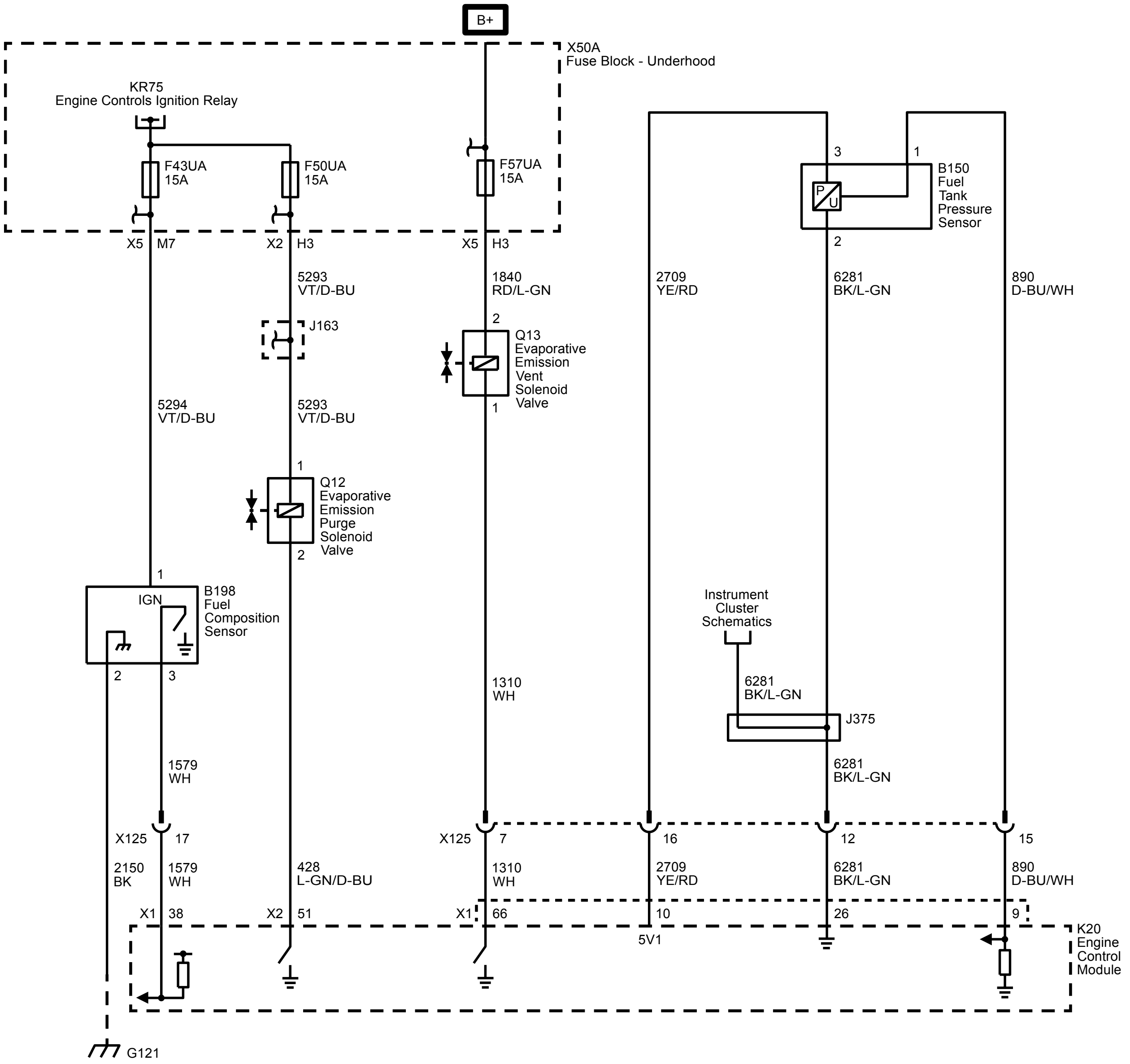
Fuel Controls - Fuel Injectors and Fuel Pressure


B47B Fuel Rail Pressure Sensor
P U
1
2
3
4
2161 BN/YE
2919 BK/L-GN
2918 D-BU/WH
2917 BN/RD
X160
6
12
11
10
G18 High Pressure Fuel Pump
1
2
7301 YE
7300 VT/BK
X161
12
11
9
Instrument Cluster Schematics
1589 BU/VT
X1
25
2161 BN/YE
2919 BK/L-GN
2918 D-BU/WH
2917 BN/RD
7301 YE
7300 VT/BK
X3
3
X2
3
19
18
5V1
X3
16
32
1
K20 Engine Control Module
X3
70
50
72
52
69
49
71
51
66
46
65
45
67
47
68
48
4907 WH/YE
4807 YE/GY
4901 BN/WH
4801 BN
4903 L-GN/BK
4803 L-GN
4905 L-GN/WH
4805 WH/L-GN
4902 D-BU/YE
4802 D-BU
4904 D-BU/WH
4804 GY/D-BU
4906 VT
4806 PU/L-GN
4908 GY/D-BU
4808 GY
9
X160
4
9
1
5
2
7
3
8
X161
1
5
2
8
3
9
4
10
4907 WH/YE
4901 BN/WH
4903 L-GN/BK
4905 L-GN/WH
4902 D-BU/YE
4904 D-BU/WH
4906 VT
4908 GY/D-BU
1
2
Q17G Fuel Injector 7
Q17A Fuel Injector 1
Q17C Fuel Injector 3
Q17E Fuel Injector 5
Q17B Fuel Injector 2
Q17D Fuel Injector 4
Q17F Fuel Injector 6
Q17H Fuel Injector 8
4807 YE/GY
4801 BN
4803 L-GN
4805 WH/L-GN
4802 D-BU
4804 GY/D-BU
4806 PU/L-GN
4808 GY

Fuel Controls - Fuel Pump Control

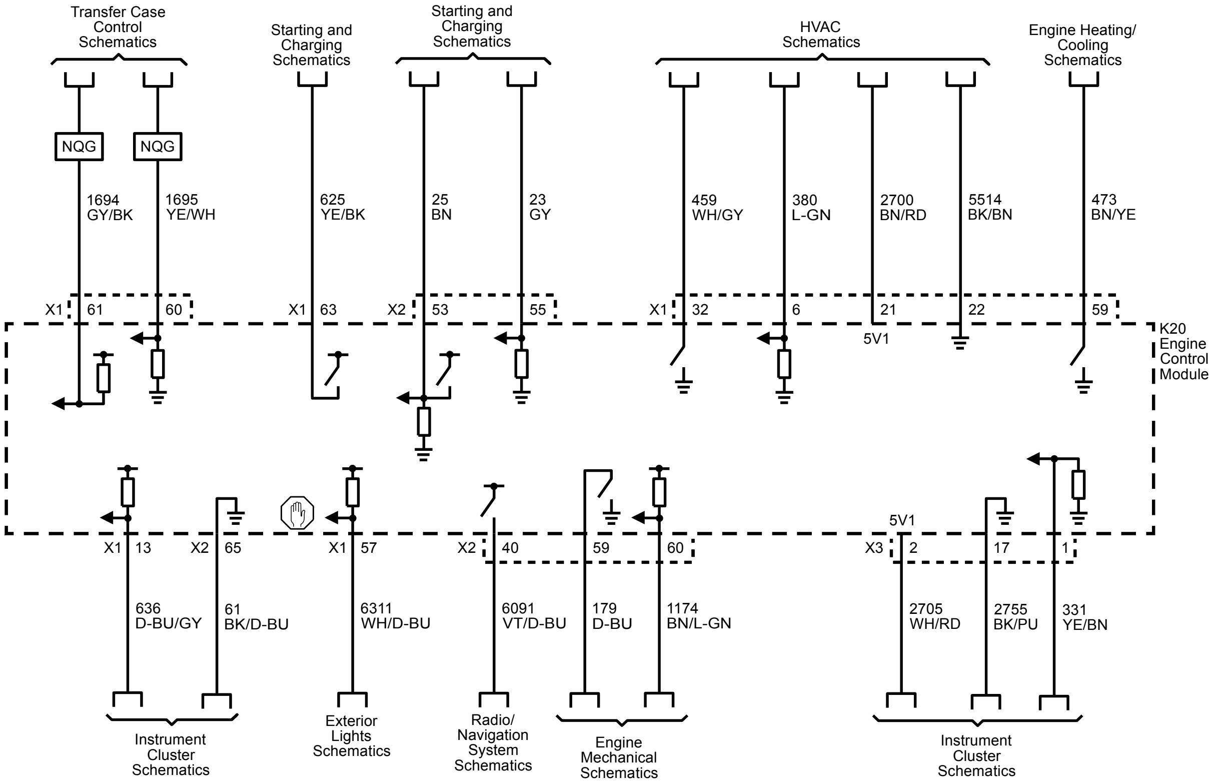

B+
X50A
Fuse Block - Underhood
KR73
Ignition
Main
Relay
F21UA
30A
F34UA
15A
X5
G2
J5
A7
Fuel Pump
and Level
Sensor
Assembly
G12A
Fuel
Pump -
Primary
M
120
YE
1580
YE
1
2
K20
Engine
Control
Module
5V
X1
44
24
2
8
5660
GY
7445
BN/RD
7446
D-BU/WH
7447
BK/YE
X2
M5
X50A
Fuse Block -
Underhood
X5
M5
1940
RD/VT
439
PU/L-GN
W7
Blunt Cut -
Shield
120
GY
1580
BK/L-GN
7444
BARE
5660
GY
X125
18
8
9
9
7444
BARE
7445
BN/RD
7446
D-BU/WH
7447
BK/YE
1
6
8
16
15
2
B+
IGN
K111
Fuel Pump
Driver
Control
Module
IGN
9
7
4
5
11
12
13
14
2150
BK
5985
VT/YE
7493
D-BU/BK
7494
WH
7493
D-BU/BK
7493
D-BU/BK
7494
WH
7494
WH
Data
Communication
Schematics
G121
3
1
B47
Fuel
Pressure
Sensor
P
U
2

Fuel Controls - Evaporative Emissions Controls


B+
X50A
Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F43UA
15A
F50UA
15A
F57UA
15A
X5 M7
X2 H3
X5 H3
5293
VT/D-BU
J163
5294
VT/D-BU
5293
VT/D-BU
1840
RD/L-GN
2
Q13
Evaporative
Emission
Vent
Solenoid
Valve
1
1
Q12
Evaporative
Emission
Purge
Solenoid
Valve
2
1
IGN
B198
Fuel
Composition
Sensor
2
3
1579
WH
1310
WH
3
1
B150
Fuel
Tank
Pressure
Sensor
P
U
2
2709
YE/RD
6281
BK/L-GN
890
D-BU/WH
Instrument
Cluster
Schematics
6281
BK/L-GN
J375
6281
BK/L-GN
X125 17
X125 7
16
12
15
2150
BK
1579
WH
428
L-GN/D-BU
1310
WH
2709
YE/RD
6281
BK/L-GN
890
D-BU/WH
X1 38
X2 51
X1 66
10
26
9
5V1
K20
Engine
Control
Module
G121

Controlled/Monitored Subsystem References

LOC
DESC


Transfer Case Control Schematics
NQG
NQG
1694 GY/BK
1695 YE/WH
Starting and Charging Schematics
625 YE/BK
Starting and Charging Schematics
25 BN
23 GY
HVAC Schematics
459 WH/GY
380 L-GN
2700 BN/RD
5514 BK/BN
Engine Heating/ Cooling Schematics
473 BN/YE
X1 61
60
X1 63
X2 53
55
X1 32
6
21
22
59
5V1
K20 Engine Control Module
5V1
X1 13
X2 65
X1 57
X2 40
59
60
X3 2
17
1
636 D-BU/GY
61 BK/D-BU
6311 WH/D-BU
6091 VT/D-BU
179 D-BU
1174 BN/L-GN
2705 WH/RD
2755 BK/PU
331 YE/BN
Instrument Cluster Schematics
Exterior Lights Schematics
Radio/ Navigation System Schematics
Engine Mechanical Schematics
Instrument Cluster Schematics

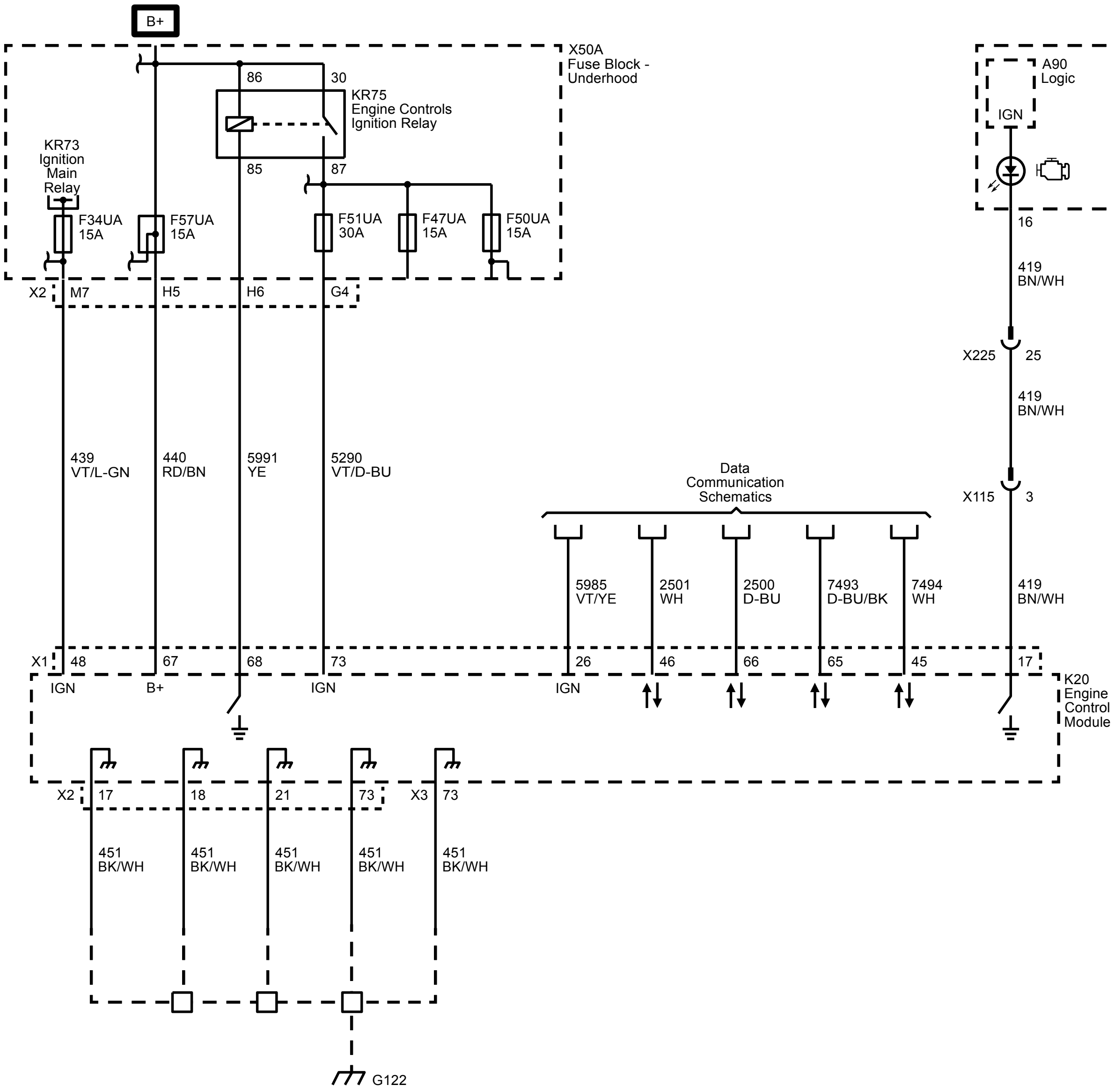
Engine/Propulsion

Engine Controls and Fuel - 6.6L (LML)

Schematic and Routing Diagrams

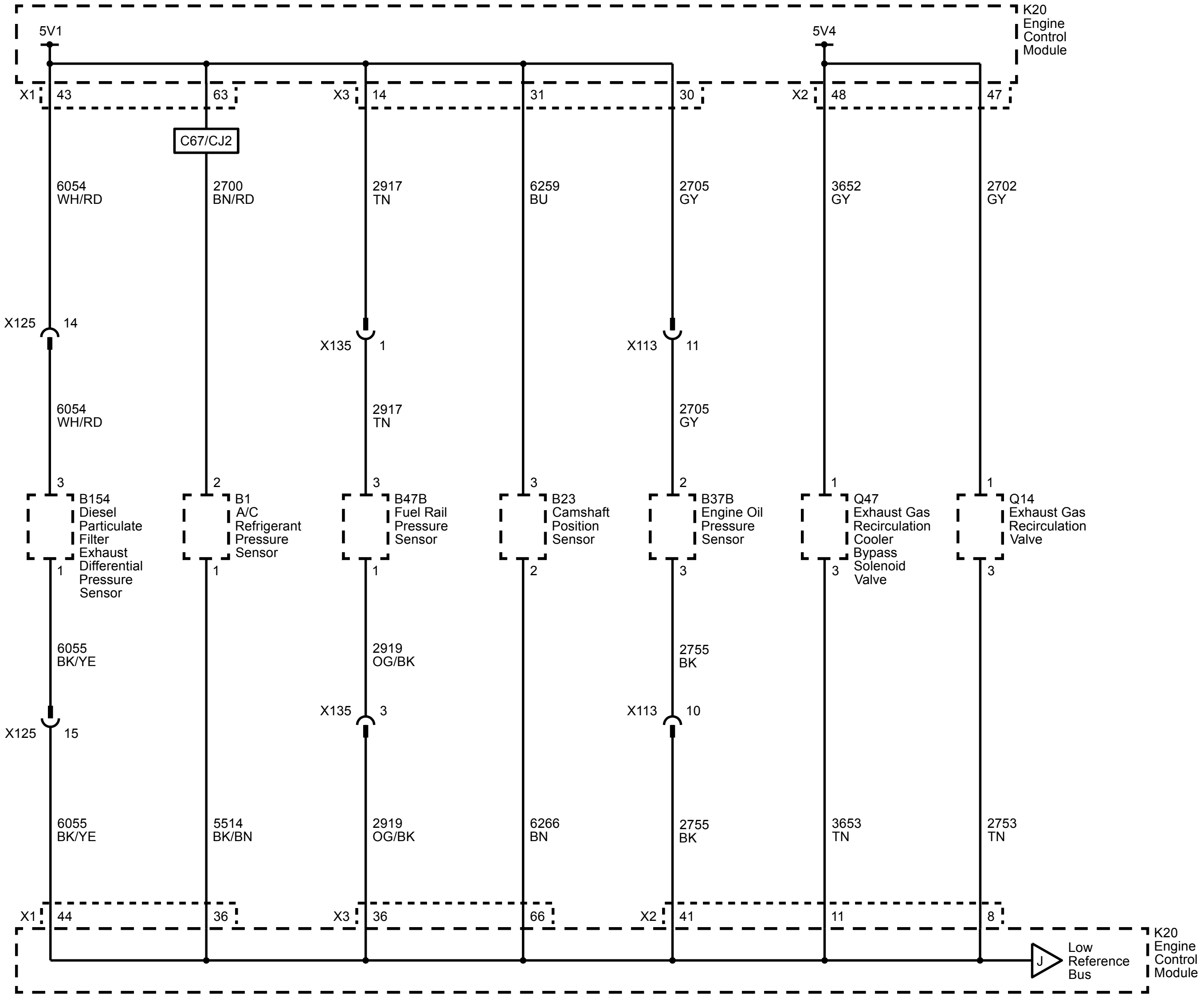
Engine Controls Schematics

Power, Ground, Serial Data, and MIL

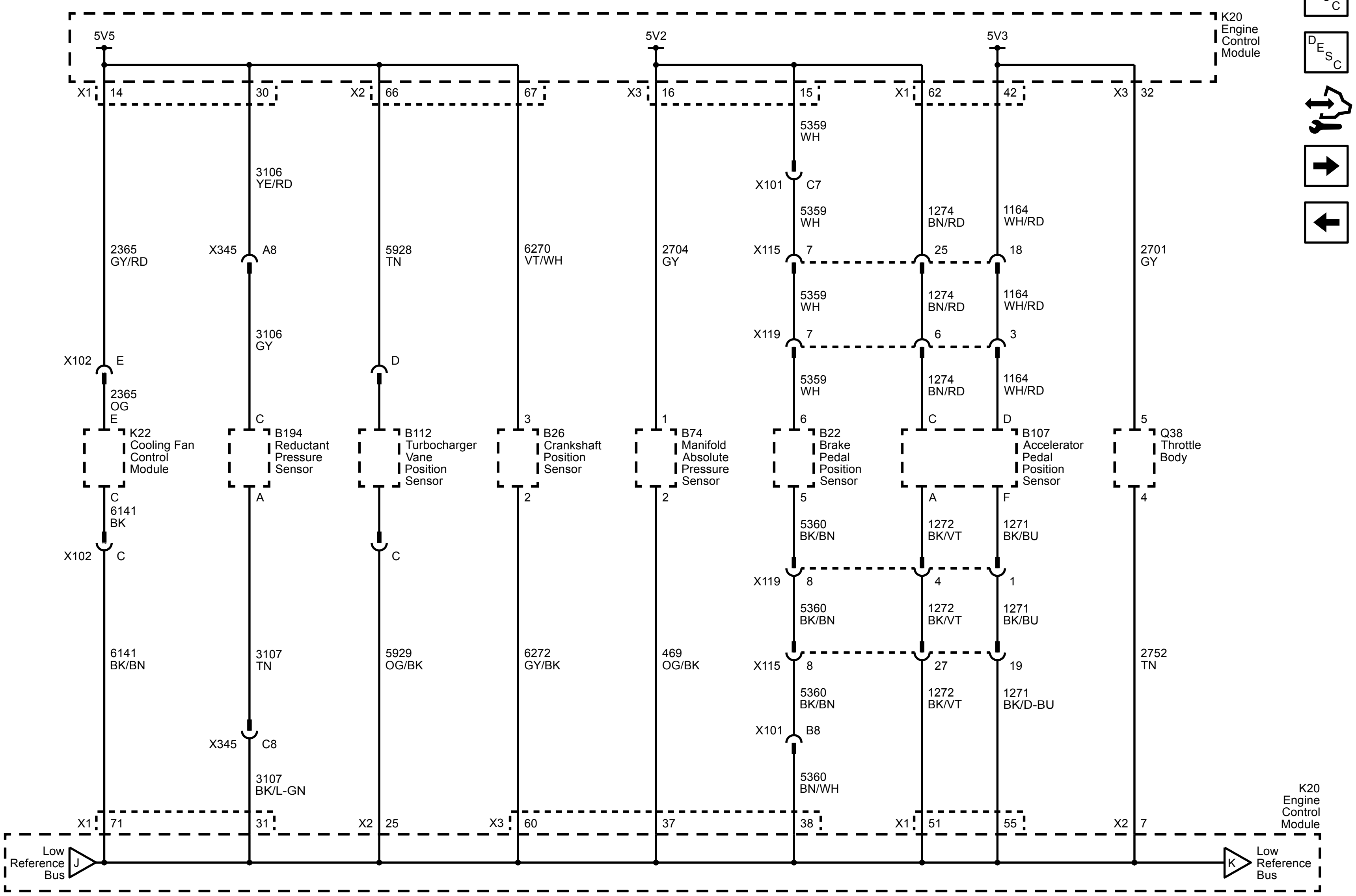


B+
X50A
Fuse Block - Underhood
86
30
KR75
Engine Controls Ignition Relay
85
87
KR73
Ignition
Main
Relay
F34UA
15A
F57UA
15A
F51UA
30A
F47UA
15A
F50UA
15A
X2
M7
H5
H6
G4
439
VT/L-GN
440
RD/BN
5991
YE
5290
VT/D-BU
P16
Instrument
Cluster
A90
Logic
IGN
16
419
BN/WH
X225
25
419
BN/WH
X115
3
Data
Communication
Schematics
5985
VT/YE
2501
WH
2500
D-BU
7493
D-BU/BK
7494
WH
419
BN/WH
X1
48
67
68
73
26
46
66
65
45
17
IGN
B+
IGN
IGN
K20
Engine
Control
Module
X2
17
18
21
73
X3
73
451
BK/WH
451
BK/WH
451
BK/WH
451
BK/WH
451
BK/WH
G122

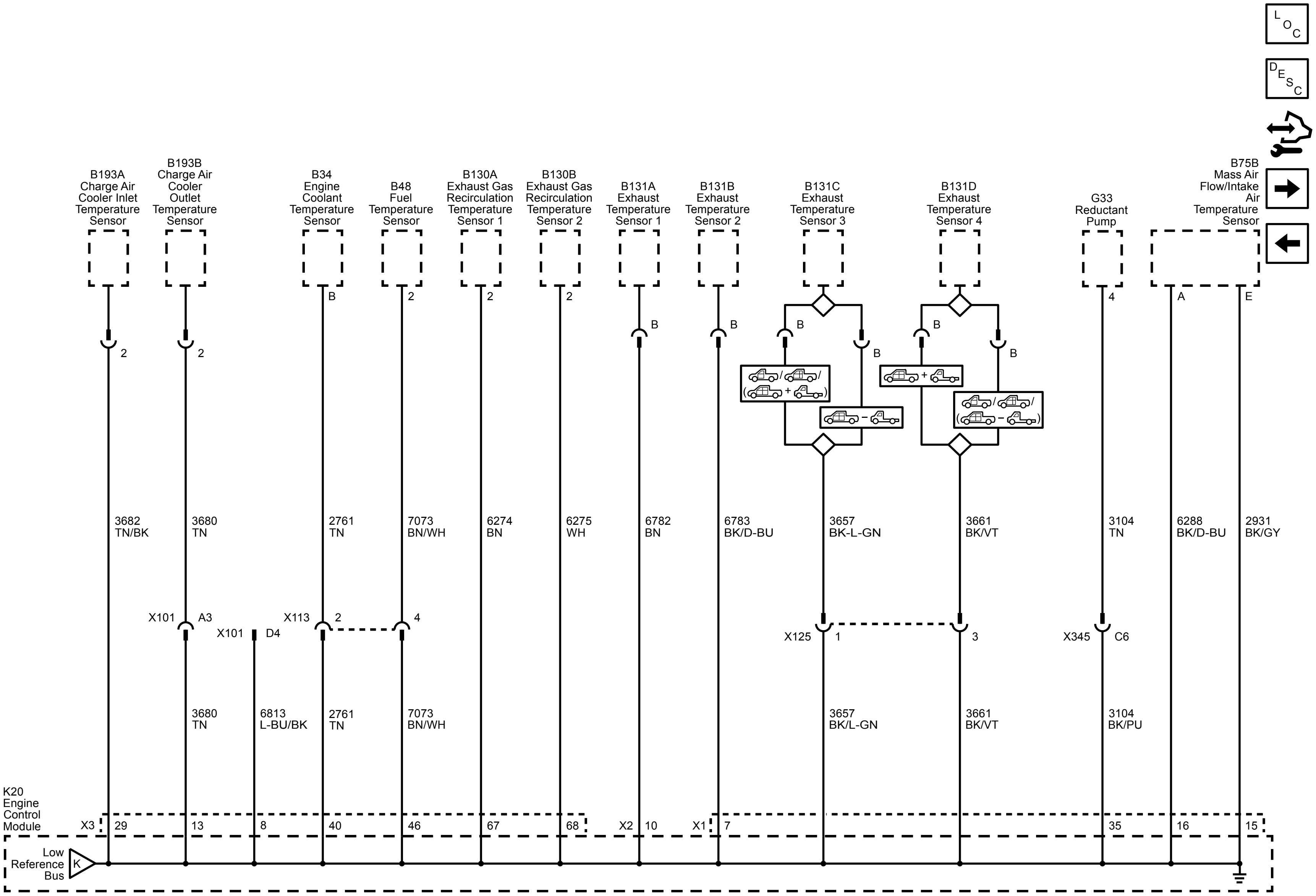
5V1 and Low Reference Bus (1 of 3)


K20
Engine
Control
Module
5V1
5V4
X1
43
63
X3
14
31
30
X2
48
47
C67/CJ2
6054
WH/RD
2700
BN/RD
2917
TN
6259
BU
2705
GY
3652
GY
2702
GY
X125
14
X135
1
X113
11
6054
WH/RD
2917
TN
2705
GY
3
B154
Diesel
Particulate
Filter
Exhaust
Differential
Pressure
Sensor
1
2
B1
A/C
Refrigerant
Pressure
Sensor
1
3
B47B
Fuel Rail
Pressure
Sensor
1
3
B23
Camshaft
Position
Sensor
2
2
B37B
Engine Oil
Pressure
Sensor
3
1
Q47
Exhaust Gas
Recirculation
Cooler
Bypass
Solenoid
Valve
3
1
Q14
Exhaust Gas
Recirculation
Valve
3
6055
BK/YE
2919
OG/BK
2755
BK
X125
15
X135
3
X113
10
6055
BK/YE
5514
BK/BN
2919
OG/BK
6266
BN
2755
BK
3653
TN
2753
TN
X1
44
36
X3
36
66
X2
41
11
8
J
Low
Reference
Bus
K20
Engine
Control
Module

5V2, 5V3 and 5V4, and Low Reference Bus (2 of 3)

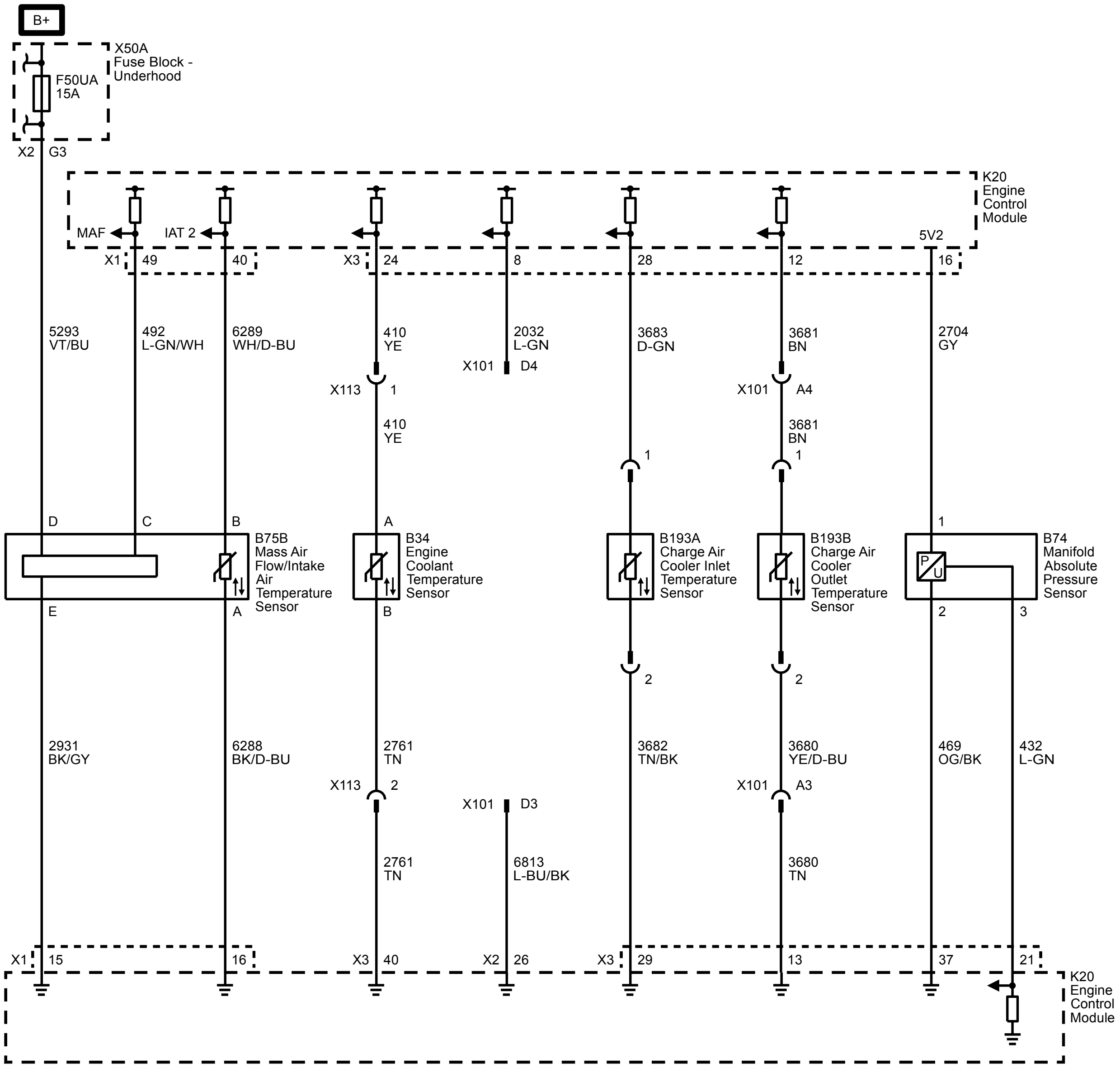

K20 Engine Control Module
5V5
5V2
5V3
X1 14
30
X2 66
67
X3 16
15
X1 62
42
X3 32
5359 WH
X101 C7
5359 WH
3106 YE/RD
1274 BN/RD
1164 WH/RD
2365 GY/RD
X345 A8
5928 TN
6270 VT/WH
2704 GY
X115 7
25
18
2701 GY
5359 WH
1274 BN/RD
1164 WH/RD
3106 GY
X119 7
6
3
X102 E
D
2365 OG
5359 WH
1274 BN/RD
1164 WH/RD
E
C
3
1
6
C
D
5
K22 Cooling Fan Control Module
B194 Reductant Pressure Sensor
B112 Turbocharger Vane Position Sensor
B26 Crankshaft Position Sensor
B74 Manifold Absolute Pressure Sensor
B22 Brake Pedal Position Sensor
B107 Accelerator Pedal Position Sensor
Q38 Throttle Body
C
A
2
2
5
A
F
4
6141 BK
5360 BK/BN
1272 BK/VT
1271 BK/BU
X102 C
C
X119 8
4
1
5360 BK/BN
1272 BK/VT
1271 BK/BU
6141 BK/BN
3107 TN
5929 OG/BK
6272 GY/BK
469 OG/BK
X115 8
27
19
2752 TN
5360 BK/BN
1272 BK/VT
1271 BK/D-BU
X101 B8
X345 C8
3107 BK/L-GN
5360 BN/WH
K20 Engine Control Module
X1 71
31
X2 25
X3 60
37
38
X1 51
55
X2 7
Low Reference Bus J
K Low Reference Bus

Low Reference Bus (3 of 3)

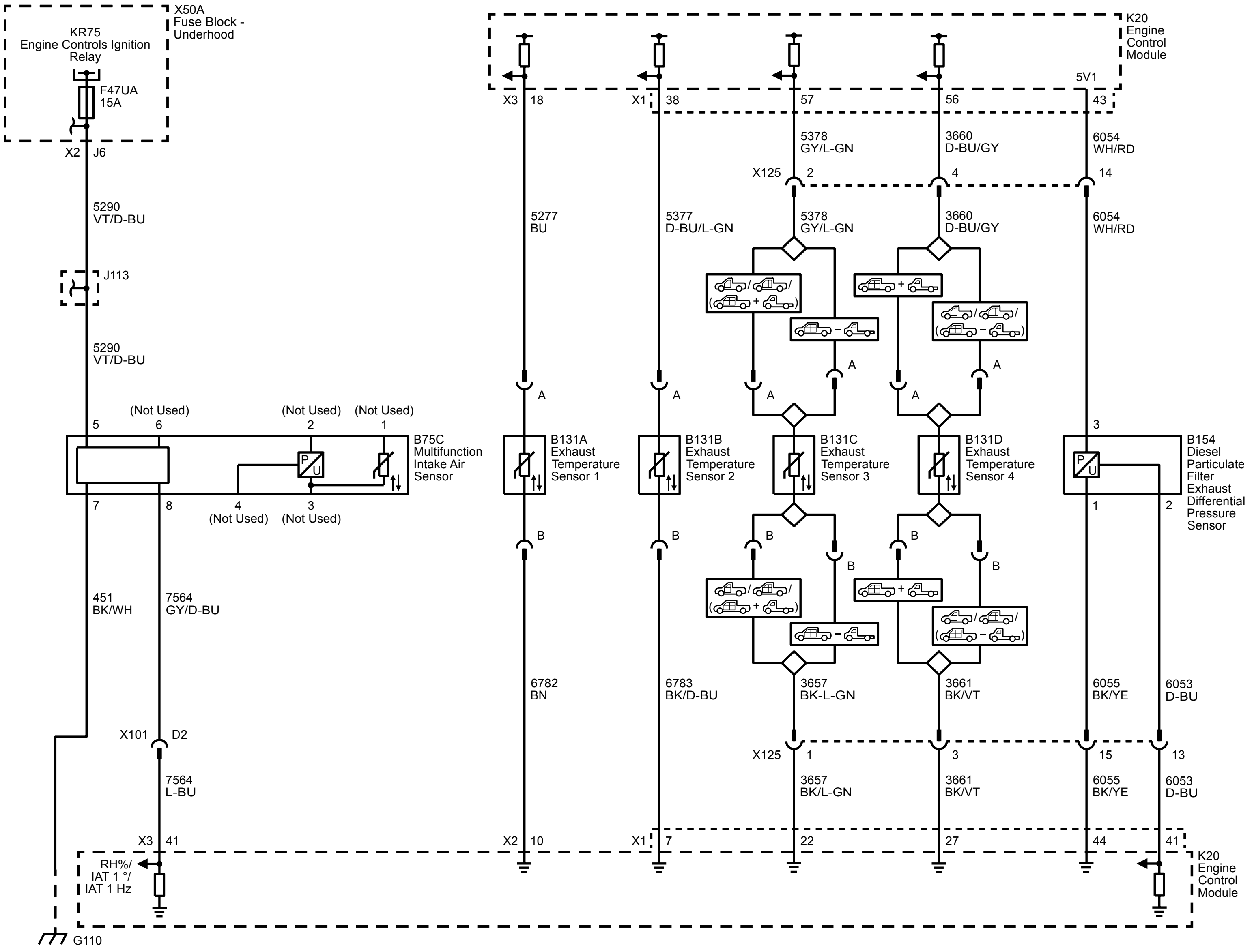


L O C
D E S C
B193A Charge Air Cooler Inlet Temperature Sensor
B193B Charge Air Cooler Outlet Temperature Sensor
B34 Engine Coolant Temperature Sensor
B48 Fuel Temperature Sensor
B130A Exhaust Gas Recirculation Temperature Sensor 1
B130B Exhaust Gas Recirculation Temperature Sensor 2
B131A Exhaust Temperature Sensor 1
B131B Exhaust Temperature Sensor 2
B131C Exhaust Temperature Sensor 3
B131D Exhaust Temperature Sensor 4
G33 Reductant Pump
B75B Mass Air Flow/Intake Air Temperature Sensor
2
2
B
2
2
2
B
B
B
B
B
B
4
A
E
3682 TN/BK
3680 TN
2761 TN
7073 BN/WH
6274 BN
6275 WH
6782 BN
6783 BK/D-BU
3657 BK-L-GN
3661 BK/VT
3104 TN
6288 BK/D-BU
2931 BK/GY
X101 A3
X101 D4
X113 2
4
X125 1
3
X345 C6
3680 TN
6813 L-BU/BK
2761 TN
7073 BN/WH
3657 BK/L-GN
3661 BK/VT
3104 BK/PU
K20 Engine Control Module
X3 29
13
8
40
46
67
68
X2 10
X1 7
35
16
15
Low Reference Bus
K

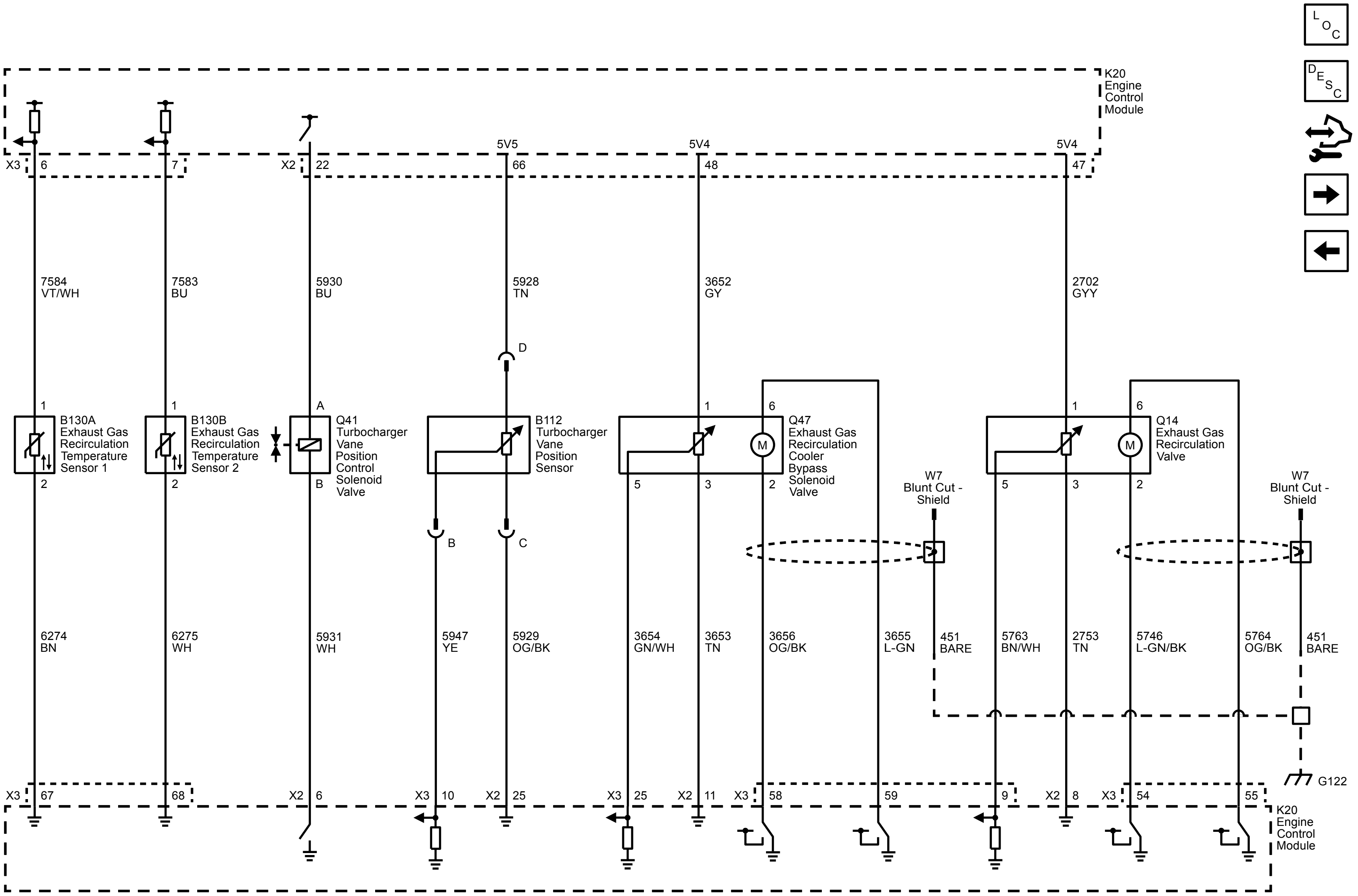
Engine Data Sensors - Pressure and Temperature (1 of 2)


B+
X50A
Fuse Block -
Underhood
F50UA
15A
X2
G3
K20
Engine
Control
Module
MAF
IAT 2
5V2
X1
49
40
X3
24
8
28
12
16
5293
VT/BU
492
L-GN/WH
6289
WH/D-BU
410
YE
2032
L-GN
X101
D4
3683
D-GN
3681
BN
2704
GY
X113
1
410
YE
X101
A4
3681
BN
1
1
D
C
B
A
1
B75B
Mass Air
Flow/Intake
Air
Temperature
Sensor
B34
Engine
Coolant
Temperature
Sensor
B193A
Charge Air
Cooler Inlet
Temperature
Sensor
B193B
Charge Air
Cooler
Outlet
Temperature
Sensor
P
U
B74
Manifold
Absolute
Pressure
Sensor
E
A
B
2
3
2
2
2931
BK/GY
6288
BK/D-BU
2761
TN
3682
TN/BK
3680
YE/D-BU
469
OG/BK
432
L-GN
X113
2
X101
D3
X101
A3
2761
TN
6813
L-BU/BK
3680
TN
X1
15
16
X3
40
X2
26
X3
29
13
37
21
K20
Engine
Control
Module

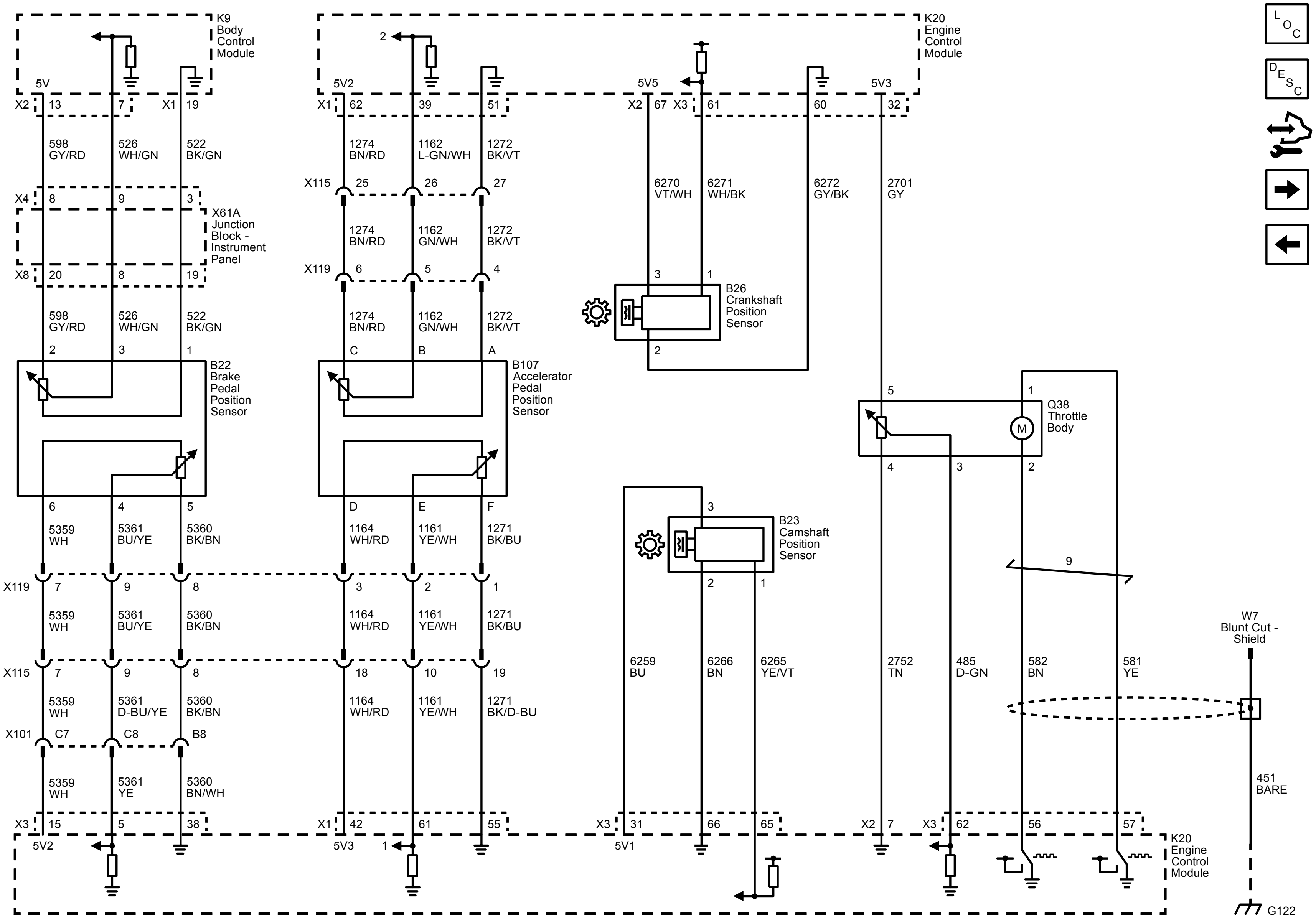
Engine Data Sensors - Pressure and Temperature (2 of 2)


X50A
Fuse Block - Underhood
KR75
Engine Controls Ignition Relay
F47UA
15A
X2
J6
5290
VT/D-BU
J113
5290
VT/D-BU
(Not Used)
5
6
(Not Used)
2
(Not Used)
1
B75C
Multifunction Intake Air Sensor
7
8
4
(Not Used)
3
(Not Used)
451
BK/WH
7564
GY/D-BU
X101
D2
7564
L-BU
G110
X3
41
RH%/
IAT 1 °/
IAT 1 Hz
K20
Engine Control Module
X3
18
X1
38
57
56
5V1
43
5378
GY/L-GN
3660
D-BU/GY
6054
WH/RD
X125
2
4
14
5277
BU
5377
D-BU/L-GN
5378
GY/L-GN
3660
D-BU/GY
6054
WH/RD
A
A
A
A
A
A
3
B131A
Exhaust Temperature Sensor 1
B131B
Exhaust Temperature Sensor 2
B131C
Exhaust Temperature Sensor 3
B131D
Exhaust Temperature Sensor 4
B154
Diesel Particulate Filter Exhaust Differential Pressure Sensor
P
U
1
2
B
B
B
B
B
B
6782
BN
6783
BK/D-BU
3657
BK-L-GN
3661
BK/VT
6055
BK/YE
6053
D-BU
X125
1
3
15
13
3657
BK/L-GN
3661
BK/VT
6055
BK/YE
6053
D-BU
X2
10
X1
7
22
27
44
41
K20
Engine Control Module

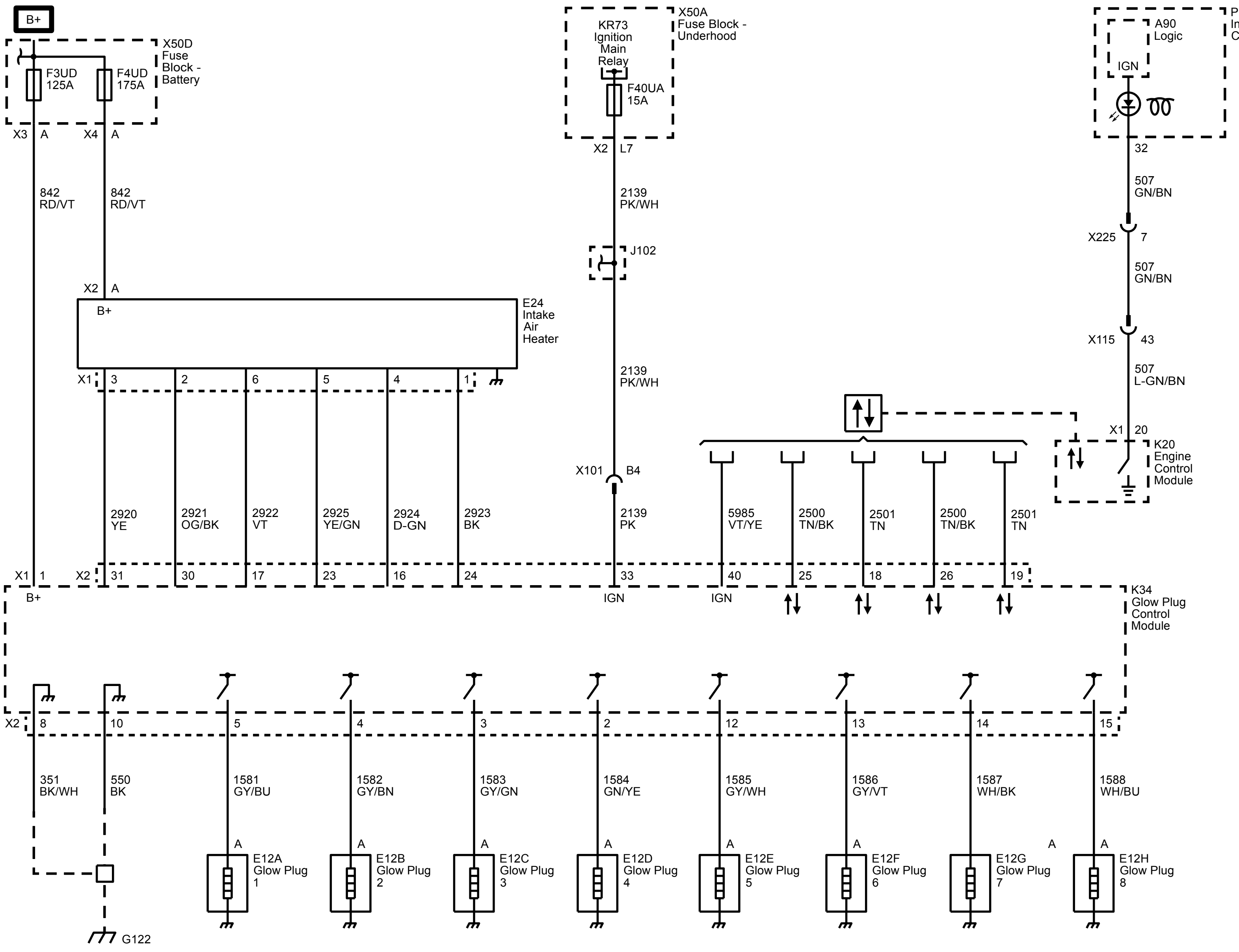
Engine Data Sensors - EGR and Turbocharger Controls


K20
Engine
Control
Module
X3 6
X3 7
X2 22
5V5 66
5V4 48
5V4 47
7584 VT/WH
7583 BU
5930 BU
5928 TN
3652 GY
2702 GYY
D
1
B130A
Exhaust Gas
Recirculation
Temperature
Sensor 1
2
1
B130B
Exhaust Gas
Recirculation
Temperature
Sensor 2
2
A
Q41
Turbocharger
Vane
Position
Control
Solenoid
Valve
B
B112
Turbocharger
Vane
Position
Sensor
B
C
1
6
Q47
Exhaust Gas
Recirculation
Cooler
Bypass
Solenoid
Valve
5
3
2
M
W7
Blunt Cut -
Shield
1
6
Q14
Exhaust Gas
Recirculation
Valve
5
3
2
M
W7
Blunt Cut -
Shield
6274 BN
6275 WH
5931 WH
5947 YE
5929 OG/BK
3654 GN/WH
3653 TN
3656 OG/BK
3655 L-GN
451 BARE
5763 BN/WH
2753 TN
5746 L-GN/BK
5764 OG/BK
451 BARE
G122
X3 67
68
X2 6
X3 10
X2 25
X3 25
X2 11
X3 58
59
9
X2 8
X3 54
55
K20
Engine
Control
Module
L O C
D E S C

Engine Data Sensors - Injector Timing Controls and Override

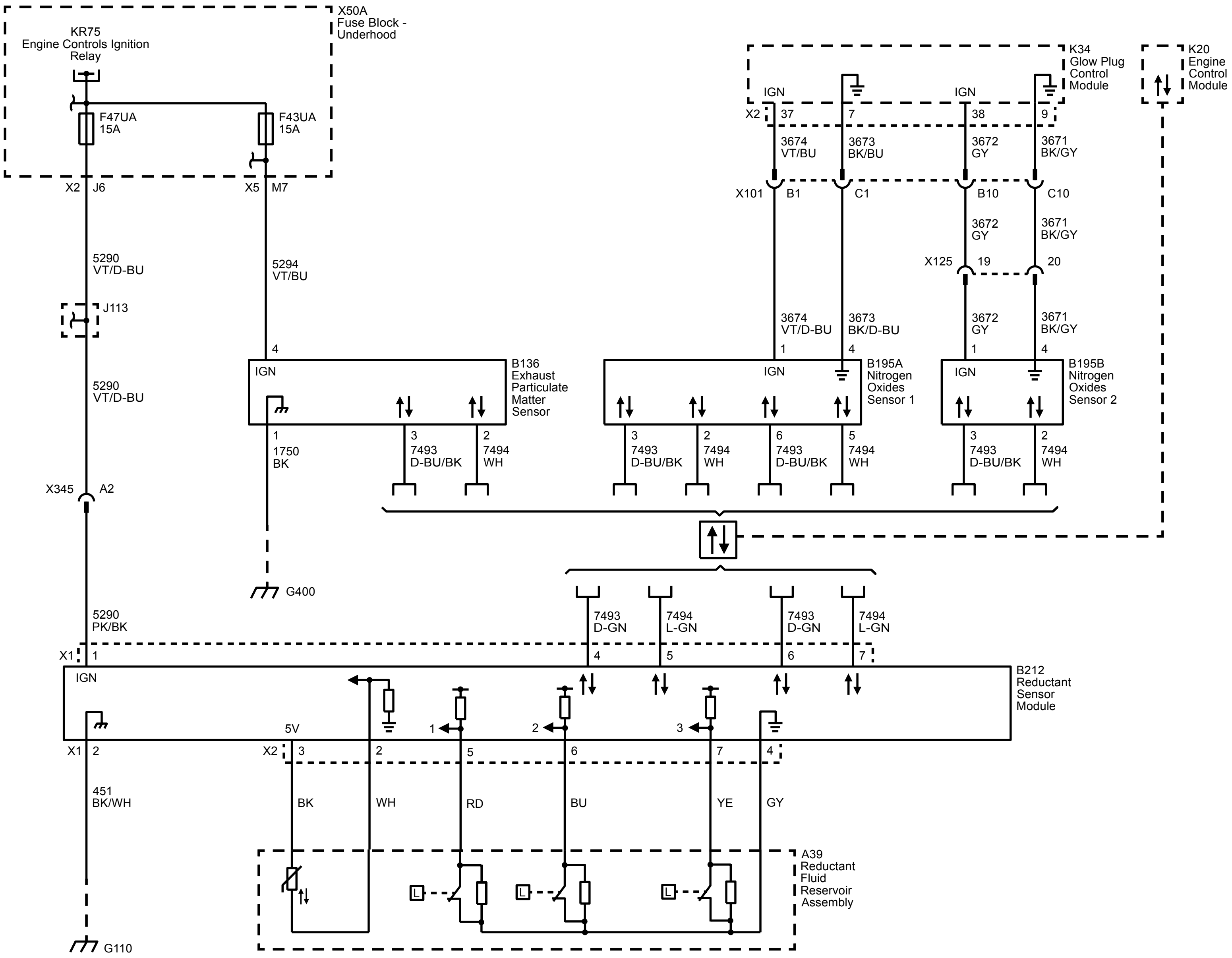

K9
Body
Control
Module
5V
X2 13
7
X1 19
598
GY/RD
526
WH/GN
522
BK/GN
X4 8
9
3
X61A
Junction
Block -
Instrument
Panel
X8 20
8
19
598
GY/RD
526
WH/GN
522
BK/GN
2
3
1
B22
Brake
Pedal
Position
Sensor
6
4
5
5359
WH
5361
BU/YE
5360
BK/BN
X119 7
9
8
5359
WH
5361
BU/YE
5360
BK/BN
X115 7
9
8
5359
WH
5361
D-BU/YE
5360
BK/BN
X101 C7
C8
B8
5359
WH
5361
YE
5360
BN/WH
X3 15
5
38
5V2
2
5V2
X1 62
39
51
1274
BN/RD
1162
L-GN/WH
1272
BK/VT
X115 25
26
27
1274
BN/RD
1162
GN/WH
1272
BK/VT
X119 6
5
4
1274
BN/RD
1162
GN/WH
1272
BK/VT
C
B
A
B107
Accelerator
Pedal
Position
Sensor
D
E
F
1164
WH/RD
1161
YE/WH
1271
BK/BU
3
2
1
1164
WH/RD
1161
YE/WH
1271
BK/BU
18
10
19
1164
WH/RD
1161
YE/WH
1271
BK/D-BU
X1 42
61
55
5V3
1
K20
Engine
Control
Module
5V5
X2 67
X3 61
60
5V3
32
6270
VT/WH
6271
WH/BK
6272
GY/BK
2701
GY
3
1
B26
Crankshaft
Position
Sensor
2
5
1
Q38
Throttle
Body
M
4
3
2
3
B23
Camshaft
Position
Sensor
2
1
9
W7
Blunt Cut -
Shield
6259
BU
6266
BN
6265
YE/VT
2752
TN
485
D-GN
582
BN
581
YE
451
BARE
X3 31
66
65
5V1
X2 7
X3 62
56
57
K20
Engine
Control
Module
G122

Engine Data Sensors - Glow Plug Controls and Intake Air Heater

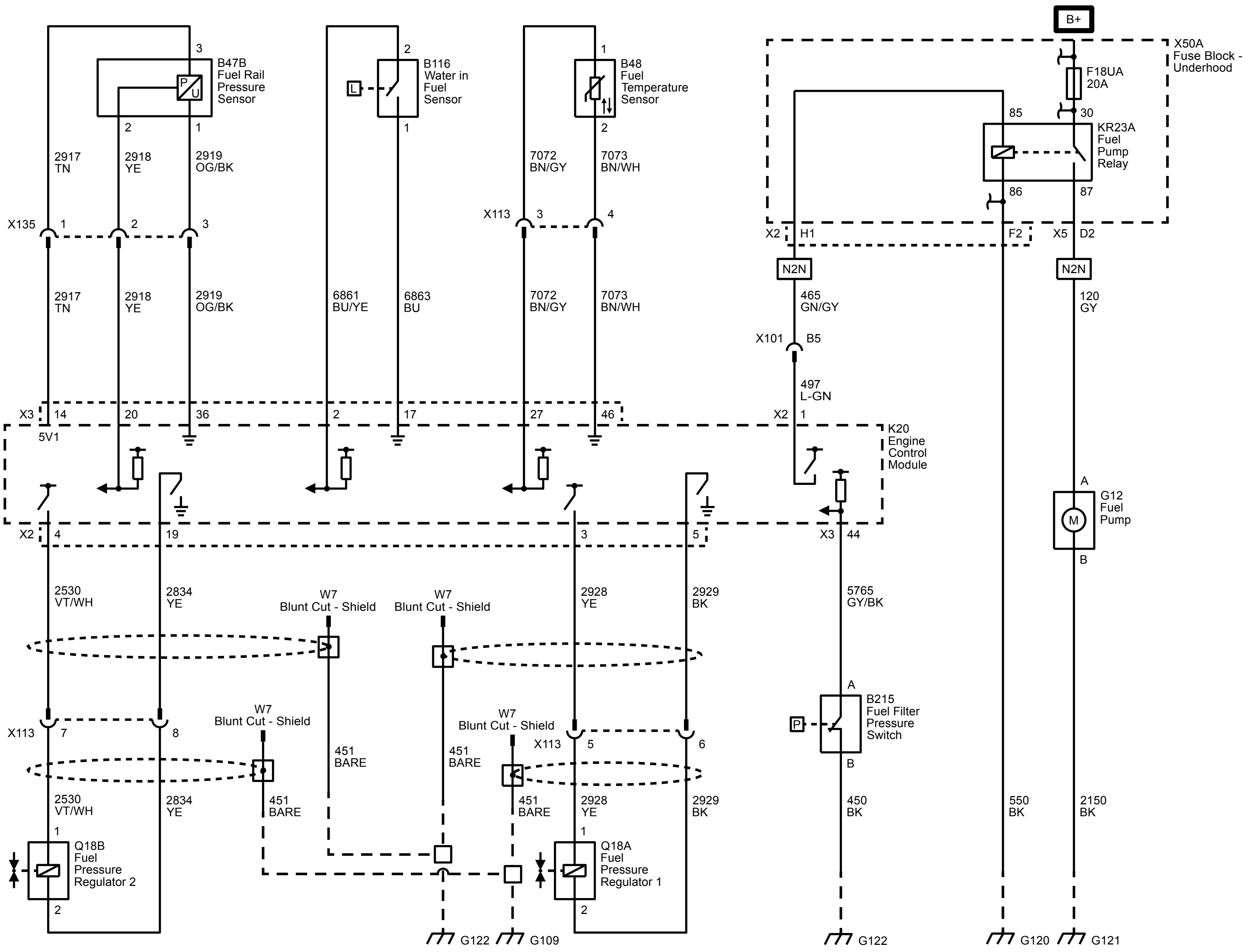


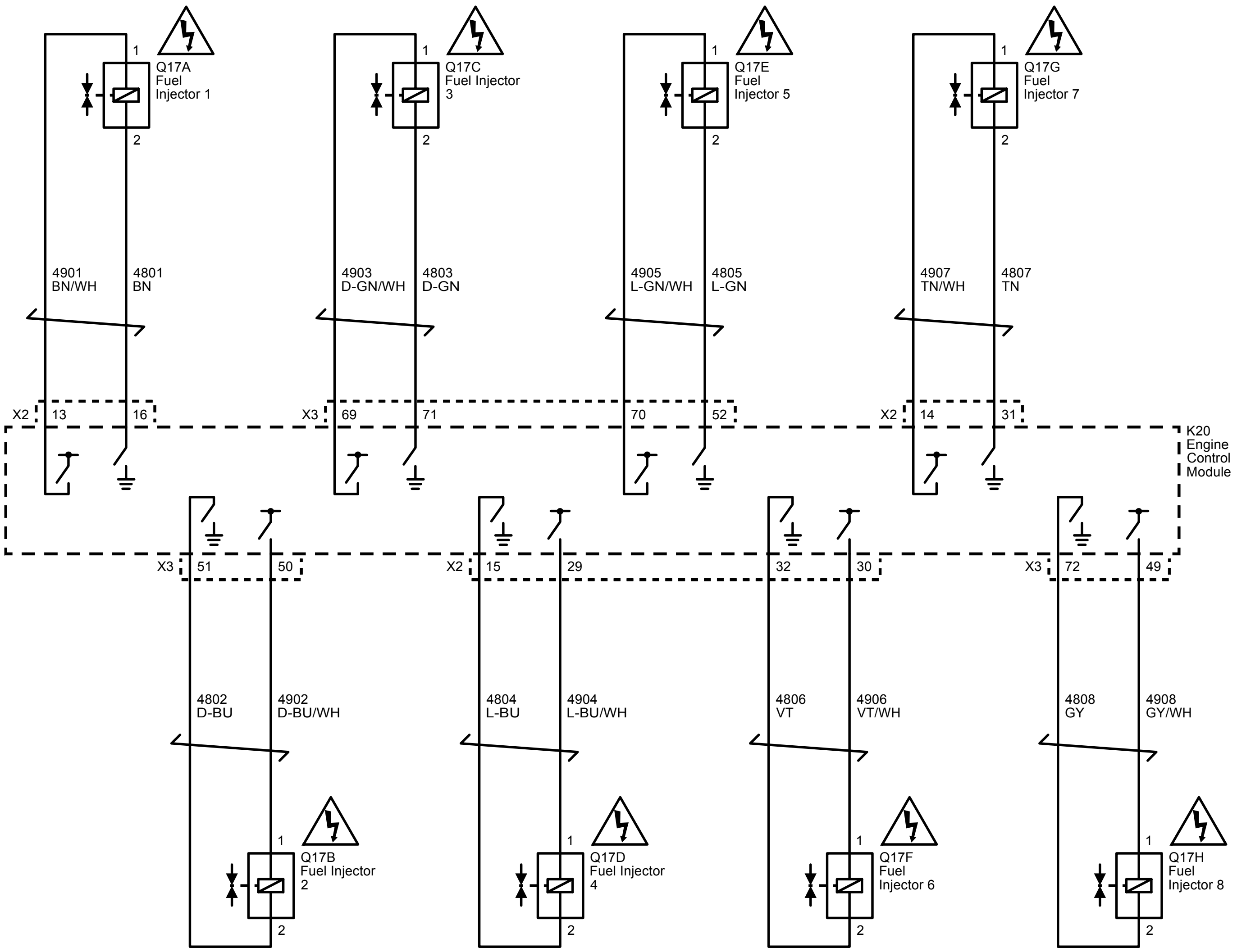
B+
X50D Fuse Block - Battery
F3UD 125A
F4UD 175A
X3 A
X4 A
842 RD/VT
842 RD/VT
X50A Fuse Block - Underhood
KR73 Ignition Main Relay
F40UA 15A
X2 L7
2139 PK/WH
J102
2139 PK/WH
X101 B4
2139 PK
P16 Instrument Cluster
A90 Logic
IGN
32
507 GN/BN
X225 7
507 GN/BN
X115 43
507 L-GN/BN
X1 20
K20 Engine Control Module
X2 A
B+
E24 Intake Air Heater
X1 3 2 6 5 4 1
2920 YE
2921 OG/BK
2922 VT
2925 YE/GN
2924 D-GN
2923 BK
5985 VT/YE
2500 TN/BK
2501 TN
2500 TN/BK
2501 TN
X1 1
X2 31 30 17 23 16 24 33 40 25 18 26 19
B+
IGN
IGN
K34 Glow Plug Control Module
X2 8 10 5 4 3 2 12 13 14 15
351 BK/WH
550 BK
1581 GY/BU
1582 GY/BN
1583 GY/GN
1584 GN/YE
1585 GY/WH
1586 GY/VT
1587 WH/BK
1588 WH/BU
A
E12A Glow Plug 1
A
E12B Glow Plug 2
A
E12C Glow Plug 3
A
E12D Glow Plug 4
A
E12E Glow Plug 5
A
E12F Glow Plug 6
A
E12G Glow Plug 7
A
A
E12H Glow Plug 8
G122

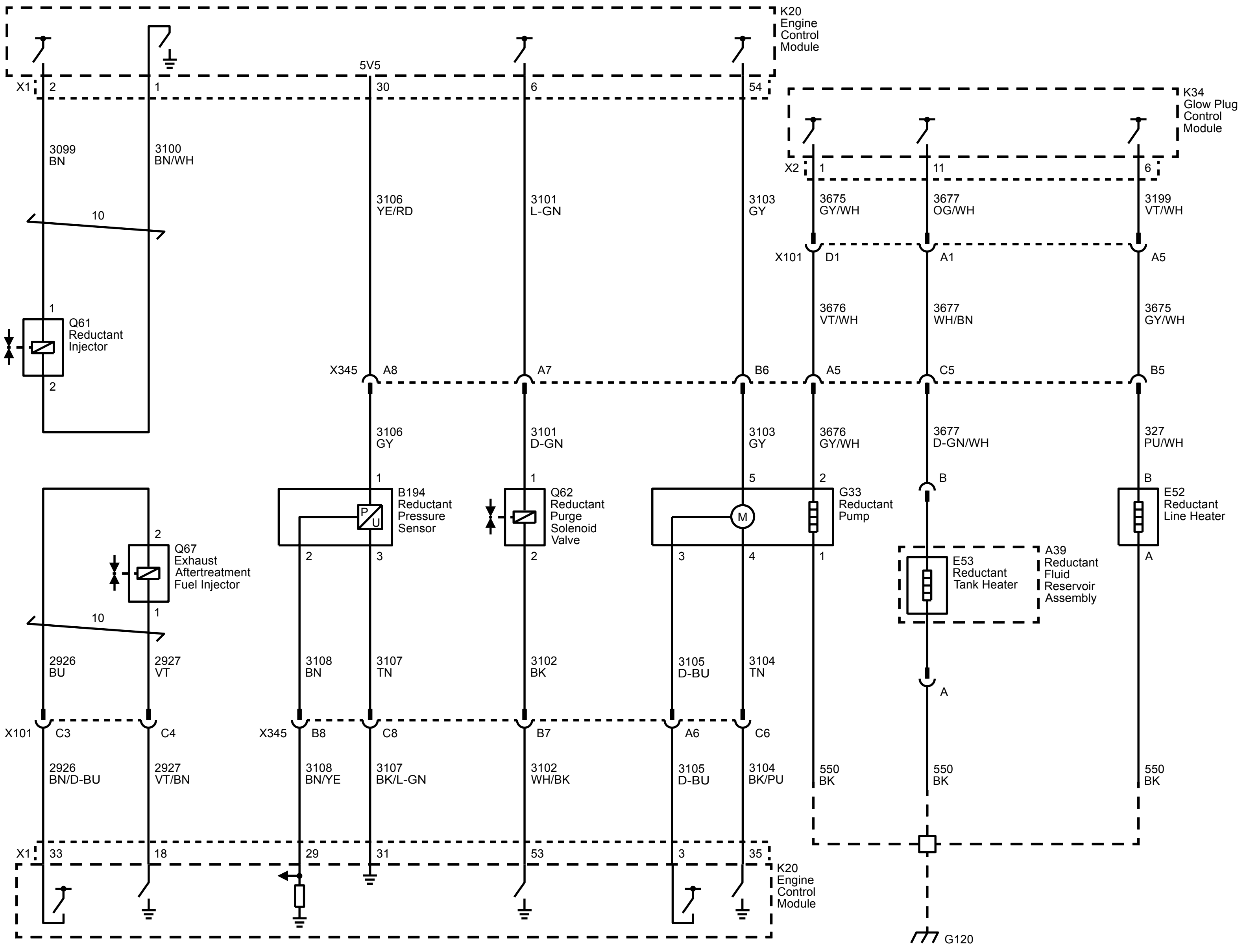
Engine Data Sensors - Soot, Nitrogen Oxides, and Reductant Sensor Module


X50A
Fuse Block -
Underhood
KR75
Engine Controls Ignition
Relay
F47UA
15A
F43UA
15A
X2
J6
X5
M7
5290
VT/D-BU
5294
VT/BU
J113
5290
VT/D-BU
4
IGN
B136
Exhaust
Particulate
Matter
Sensor
1
1750
BK
3
7493
D-BU/BK
2
7494
WH
X345
A2
G400
5290
PK/BK
K34
Glow Plug
Control
Module
IGN
IGN
X2
37
7
38
9
3674
VT/BU
3673
BK/BU
3672
GY
3671
BK/GY
X101
B1
C1
B10
C10
3672
GY
3671
BK/GY
X125
19
20
3674
VT/D-BU
3673
BK/D-BU
3672
GY
3671
BK/GY
1
4
1
4
IGN
B195A
Nitrogen
Oxides
Sensor 1
IGN
B195B
Nitrogen
Oxides
Sensor 2
3
7493
D-BU/BK
2
7494
WH
6
7493
D-BU/BK
5
7494
WH
3
7493
D-BU/BK
2
7494
WH
K20
Engine
Control
Module
7493
D-GN
7494
L-GN
7493
D-GN
7494
L-GN
X1
1
4
5
6
7
IGN
B212
Reductant
Sensor
Module
5V
1
2
3
X1
2
X2
3
2
5
6
7
4
451
BK/WH
BK
WH
RD
BU
YE
GY
A39
Reductant
Fluid
Reservoir
Assembly
L
L
L
G110

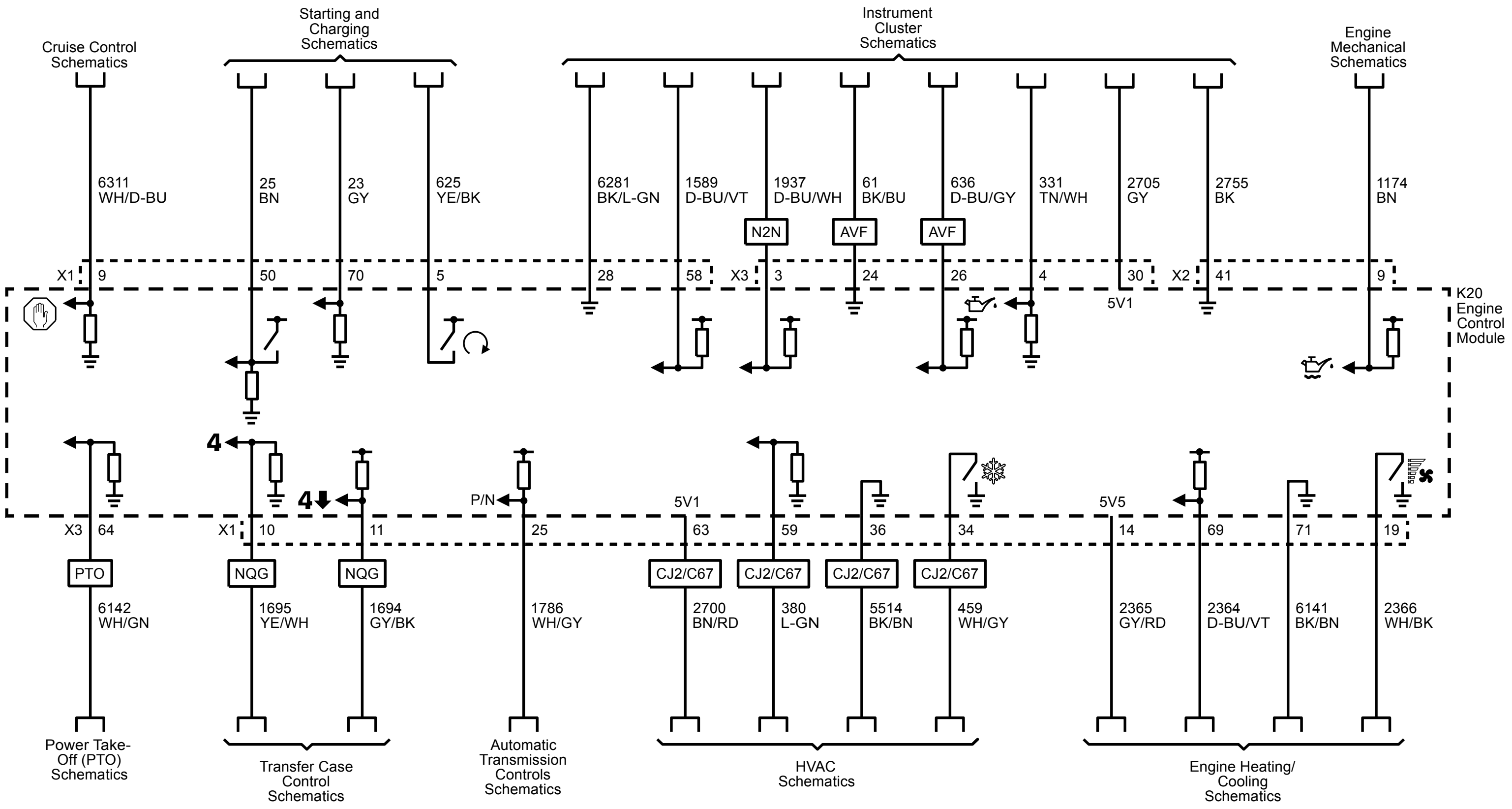
Fuel Controls - Fuel Pump, Water in Fuel, Temperature, and Pressure Controls


B47B
Fuel Rail
Pressure
Sensor
P
U
3
2
1
B116
Water in
Fuel
Sensor
L
2
1
B48
Fuel
Temperature
Sensor
1
2
B+
X50A
Fuse Block -
Underhood
F18UA
20A
30
85
KR23A
Fuel
Pump
Relay
86
87
2917
TN
2918
YE
2919
OG/BK
7072
BN/GY
7073
BN/WH
X135
1
2
3
X113
3
4
X2
H1
F2
X5
D2
N2N
N2N
2917
TN
2918
YE
2919
OG/BK
6861
BU/YE
6863
BU
7072
BN/GY
7073
BN/WH
465
GN/GY
120
GY
X101
B5
497
L-GN
X3
14
20
36
2
17
27
46
X2
1
5V1
K20
Engine
Control
Module
A
G12
Fuel
Pump
M
B
X2
4
19
3
5
X3
44
2530
VT/WH
2834
YE
W7
Blunt Cut - Shield
W7
Blunt Cut - Shield
2928
YE
2929
BK
5765
GY/BK
A
B215
Fuel Filter
Pressure
Switch
P
B
X113
7
8
W7
Blunt Cut - Shield
451
BARE
451
BARE
W7
Blunt Cut - Shield
X113
5
6
2530
VT/WH
2834
YE
451
BARE
451
BARE
2928
YE
2929
BK
450
BK
550
BK
2150
BK
1
Q18B
Fuel
Pressure
Regulator 2
2
1
Q18A
Fuel
Pressure
Regulator 1
2
G122
G109
G122
G120
G121


1
Q17A
Fuel
Injector 1
2
1
Q17C
Fuel Injector
3
2
1
Q17E
Fuel
Injector 5
2
1
Q17G
Fuel
Injector 7
2
4901
BN/WH
4801
BN
4903
D-GN/WH
4803
D-GN
4905
L-GN/WH
4805
L-GN
4907
TN/WH
4807
TN
X2
13
16
X3
69
71
70
52
X2
14
31
K20
Engine
Control
Module
X3
51
50
X2
15
29
32
30
X3
72
49
4802
D-BU
4902
D-BU/WH
4804
L-BU
4904
L-BU/WH
4806
VT
4906
VT/WH
4808
GY
4908
GY/WH
1
Q17B
Fuel Injector
2
2
1
Q17D
Fuel Injector
4
2
1
Q17F
Fuel
Injector 6
2
1
Q17H
Fuel
Injector 8
2


K20 Engine Control Module
X1
2
1
5V5
30
6
54
3099 BN
3100 BN/WH
10
3106 YE/RD
3101 L-GN
3103 GY
1
Q61 Reductant Injector
2
X345
A8
A7
B6
3106 GY
3101 D-GN
3103 GY
1
B194 Reductant Pressure Sensor
P
U
2
3
1
Q62 Reductant Purge Solenoid Valve
2
5
M
3
4
2
G33 Reductant Pump
1
2
Q67 Exhaust Aftertreatment Fuel Injector
1
10
2926 BU
2927 VT
3108 BN
3107 TN
3102 BK
3105 D-BU
3104 TN
X101
C3
C4
X345
B8
C8
B7
A6
C6
2926 BN/D-BU
2927 VT/BN
3108 BN/YE
3107 BK/L-GN
3102 WH/BK
3105 D-BU
3104 BK/PU
X1
33
18
29
31
53
3
35
K20 Engine Control Module
K34 Glow Plug Control Module
X2
1
11
6
3675 GY/WH
3677 OG/WH
3199 VT/WH
X101
D1
A1
A5
3676 VT/WH
3677 WH/BN
3675 GY/WH
A5
C5
B5
3676 GY/WH
3677 D-GN/WH
327 PU/WH
B
B
E52 Reductant Line Heater
A
E53 Reductant Tank Heater
A39 Reductant Fluid Reservoir Assembly
A
550 BK
550 BK
550 BK
G120

Controlled/Monitored Subsystem References


Cruise Control Schematics
Starting and Charging Schematics
Instrument Cluster Schematics
Engine Mechanical Schematics
6311 WH/D-BU
25 BN
23 GY
625 YE/BK
6281 BK/L-GN
1589 D-BU/VT
1937 D-BU/WH
61 BK/BU
636 D-BU/GY
331 TN/WH
2705 GY
2755 BK
1174 BN
N2N
AVF
AVF
X1
9
50
70
5
28
58
X3
3
24
26
4
30
5V1
X2
41
9
K20 Engine Control Module
4
4
P/N
5V1
5V5
X3
64
X1
10
11
25
63
59
36
34
14
69
71
19
PTO
NQG
NQG
CJ2/C67
CJ2/C67
CJ2/C67
CJ2/C67
6142 WH/GN
1695 YE/WH
1694 GY/BK
1786 WH/GY
2700 BN/RD
380 L-GN
5514 BK/BN
459 WH/GY
2365 GY/RD
2364 D-BU/VT
6141 BK/BN
2366 WH/BK
Power Take-Off (PTO) Schematics
Transfer Case Control Schematics
Automatic Transmission Controls Schematics
HVAC Schematics
Engine Heating/ Cooling Schematics

Engine/Propulsion

Engine Heating and Cooling

Schematic and Routing Diagrams

Description and Operation

Cooling System Description and Operation

Engine Coolant Indicators

ENGINE COOLANT HOT

The instrument panel cluster (IPC) displays ENGINE COOLANT HOT message when the IPC receives a message from the powertrain control module (PCM) requesting illumination of this driver warning.

ENGINE OVERHEATED

The IPC displays ENGINE OVERHEATED message when the IPC receives a message from the PCM requesting illumination of this driver warning.

REDUCED ENGINE POWER

The IPC displays REDUCED ENGINE POWER message when the IPC detects a reduced engine power condition from the PCM. The IPC receives a message from the PCM requesting illumination when the engine temperature exceeds a calibrated value.

Coolant Heater (If Equipped)

The optional engine coolant heater (RPO K05) operates using 110-volt AC external power and is designed to warm the coolant in the engine block area for improved starting in very cold weather −18°C (0°F). The coolant heater helps reduce fuel consumption when a cold engine is warming up. The unit is equipped with a detachable AC power cord. A weather shield on the cord is provided to protect the plug when not in use.

Cooling System

The cooling system's function is to maintain an efficient engine operating temperature during all engine speeds and operating conditions. The cooling system is designed to remove approximately one-third of the heat produced by the burning of the air-fuel mixture. When the engine is cold, the coolant does not flow to the radiator until the thermostat opens. This allows the engine to warm quickly.

Cooling Cycle

Coolant is drawn from the radiator outlet and into the water pump inlet by the water pump. Coolant will then be pumped through the water pump outlet and into the engine block. In the engine block, the coolant circulates through the water jackets surrounding the cylinders, where it absorbs heat.

Some coolant is also pumped from the water pump to the heater core, then back to the water pump. This provides the passenger compartment with heat and defrost.

The coolant is then forced through the cylinder head gasket openings and into the cylinder heads. In the cylinder heads, the coolant flows through the water jackets surrounding the combustion chambers and valve seats, where it absorbs additional heat.

Coolant

The engine coolant is a solution made up of a 50-50 mixture of DEX-COOL and suitable drinking water. The coolant solution carries excess heat away from the engine to the radiator, where the heat is dissipated to the atmosphere.

Radiator

The radiator is a heat exchanger. It consists of a core and two tanks. The aluminum core is a tube and fin crossflow design that extends from the inlet tank to the outlet tank. Fins are placed around the outside of the tubes to improve heat transfer to the atmosphere.

The inlet and outlet tanks are a molded, high temperature, nylon reinforced plastic material. A high temperature rubber gasket seals the tank flange edge to the aluminum core. The tanks are clamped to the core with clinch tabs. The tabs are part of the aluminum header at each end of the core.

The radiator also has a drain cock (except HD), located in the bottom of the right hand tank. The drain cock unit includes the drain cock and drain cock seal.

The radiator removes heat from the coolant passing through it. The fins on the core transfer heat from the coolant passing through the tubes. As air passes between the fins, it absorbs heat and cools the coolant.

Surge Tank

The surge tank is a plastic tank with a threaded pressure cap. The tank is mounted at a point higher than all other coolant passages. The surge tank provides an air space in the cooling system that allows the coolant to expand and contract. The surge tank provides a coolant fill point and a central air bleed location.

During vehicle use, the coolant heats and expands. The increased coolant volume flows into the surge tank. As the coolant circulates, any air is allowed to bubble out. Coolant without air bubbles absorbs heat much better than coolant with bubbles.

During vehicle use, the coolant heats and expands. The increased coolant volume can in some conditions push past the pressure cap and through a channel into the overflow bottle. As the coolant circulates, air is allowed to bubble out. This air is then transferred to the overflow bottle, through the surge tank cap, where it returns to the atmosphere. Coolant without air bubbles absorbs heat much better than coolant with bubbles. When the engine cools, the coolant, without air bubbles, contracts back into the surge tank from the bottom of the overflow bottle.

Pressure Cap

The pressure cap seals the cooling system. It contains a blow off or pressure relief valve and a vacuum or atmospheric valve. The pressure valve is held against its seat by a spring, which protects the radiator from excessive cooling system pressure. The vacuum valve is held against its seat by a spring, which permits opening of the valve to relieve vacuum created in the cooling system as it cools off. The vacuum, if not relieved, might cause the radiator and/or coolant hoses to collapse.

The pressure cap allows cooling system pressure to build up as the temperature increases. As the pressure builds, the boiling point of the coolant increases. Engine coolant can be safely run at a temperature much higher than the boiling point of the coolant at atmospheric pressure. The hotter the coolant is, the faster the heat transfers from the radiator to the cooler, passing air.

The pressure in the cooling system can get too high. When the cooling system pressure exceeds the rating of the pressure cap, it raises the pressure valve, venting the excess pressure.

As the engine cools down, the temperature of the coolant drops and a vacuum is created in the cooling system. This vacuum causes the vacuum valve to open, allowing outside air into the surge tank. This equalizes the pressure in the cooling system with atmospheric pressure, preventing the radiator and coolant hoses from collapsing.

Air Baffles and Seals

The cooling system uses deflectors, air baffles and air seals to increase cooling system capability. Deflectors are installed under the vehicle to redirect airflow beneath the vehicle and through the radiator to increase engine cooling. Air baffles are also used to direct airflow through the radiator and increase cooling capability. Air seals prevent air from bypassing the radiator and A/C condenser, and prevent recirculation of hot air for better hot weather cooling and A/C condenser performance.

Cooling Fan and Clutch

The engine cooling fan and clutch are driven by the crankshaft via the drive belt. The cooling fan draws air through the radiator to improve the transfer of heat from the coolant to the atmosphere. As the fan blades spin, they pull cool, outside air past the radiator core. The fan clutch drives the cooling fan. The fan clutch controls the amount of torque that is transmitted from the crankshaft to the fan blades. The clutch allows more torque to engage on the fan when the engine operating temperature increases and/or the vehicle speed is low. As the torque increases, the fan turns more quickly. The fan clutch decreases the torque applied to the cooling fan when the engine temperature decreases and/or the vehicle speed is high. As the torque decreases, the fan speed decreases.

Transmission Oil Cooler

The transmission oil cooler is a heat exchanger. It is located inside the right side (V6) or left side (V8), end tank of the radiator. The transmission fluid temperature is regulated by the temperature of the engine coolant that surrounds the oil cooler as the transmission fluid passes through the cooler.

The transmission oil pump, pumps the fluid through the transmission oil cooler feed line to the oil cooler. The fluid then flows through the cooler while the engine coolant absorbs heat from the fluid. The fluid is then pumped through the transmission oil cooler return line, to the transmission.

Engine Oil Cooler

The engine oil cooler is a heat exchanger located inside the left side (V6) or right side (V8), end tank of the radiator. The engine oil temperature is controlled by the temperature of the engine coolant that surrounds the oil cooler in the radiator.

The engine oil pump, pumps the oil through the engine oil cooler line to the oil cooler. The oil then flows through the cooler where the engine coolant absorbs heat from the oil. The oil is then pumped through the oil cooler return line, to the engine block system.

Cooling Fan Control – Two Fan System

The engine cooling fan system consists of 2 electrical cooling fans, with a microcontroller that receives and allows the powertrain control module (PCM) to operate both fans together at several speeds. The cooling fans and fan PWM Signal receive battery positive voltage from the underhood fuse block.

During closed loop mode (PWM signal between 10% and 91%), both cooling fans will run at a controlled speed, depending on the percentage of PWM signal is being sent. At this closed loop mode, both fans will run at the speed it is being indicated according to the signal is being read by the microcontroller.

During open loop mode (PWM signal between 92% and 95%), both cooling fans will run at a non-controlled speed, this mode is when the fans will run at the maximum speed giving the maximum airflow, this mode is activated when conditions being mentioned later in this document activate it.

Note: The right and left cooling fan connectors are interchangeable. When servicing the fans be sure that the connectors are plugged into the correct fan.

The PCM commands the low speed cooling fans ON under the following conditions:

- Engine coolant temperature exceeds a calibrated value.
- A/C refrigerant pressure exceeds a calibrated value.
- After the vehicle is shut OFF if the engine coolant temperature at key-off is:
    - 107°C-112°C then enable low speed fans.
    - 105°C then disable low speed fans.
    - 112°C then enable high speed fan.
    - 105°C then disable high speed fans.
    - The fans (high and low speed) will turn off after a maximum 5 min.

The PCM commands the high speed fans ON under the following conditions:

- Engine coolant temperature exceeds a calibrated value.
- A/C refrigerant pressure exceeds a calibrated value.
- When certain DTCs set.

At idle and very low vehicle speeds the cooling fans are only allowed to increase in speed if required. This insures idle stability by preventing the fans from cycling between high and low speed.

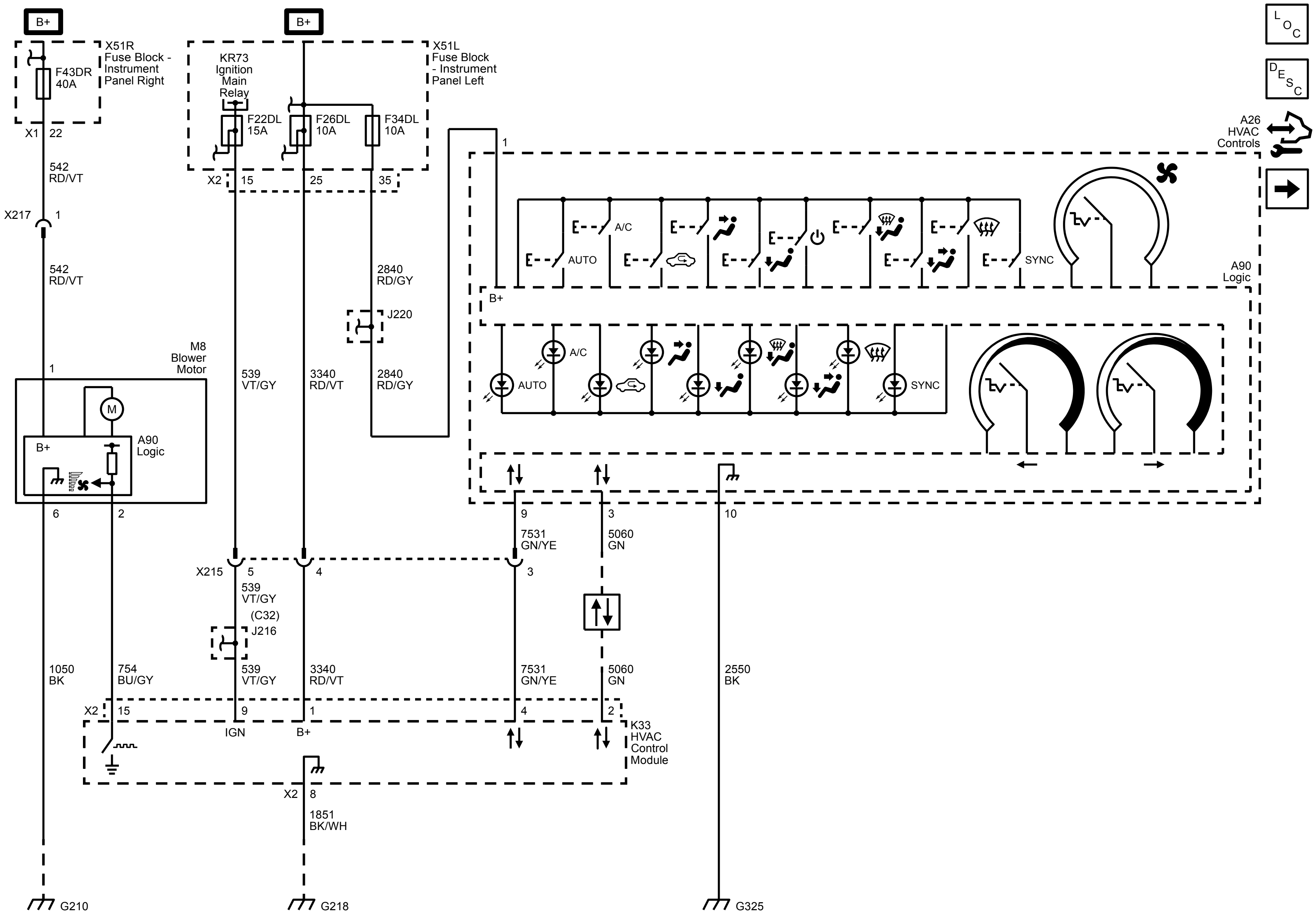
HVAC

HVAC - Automatic

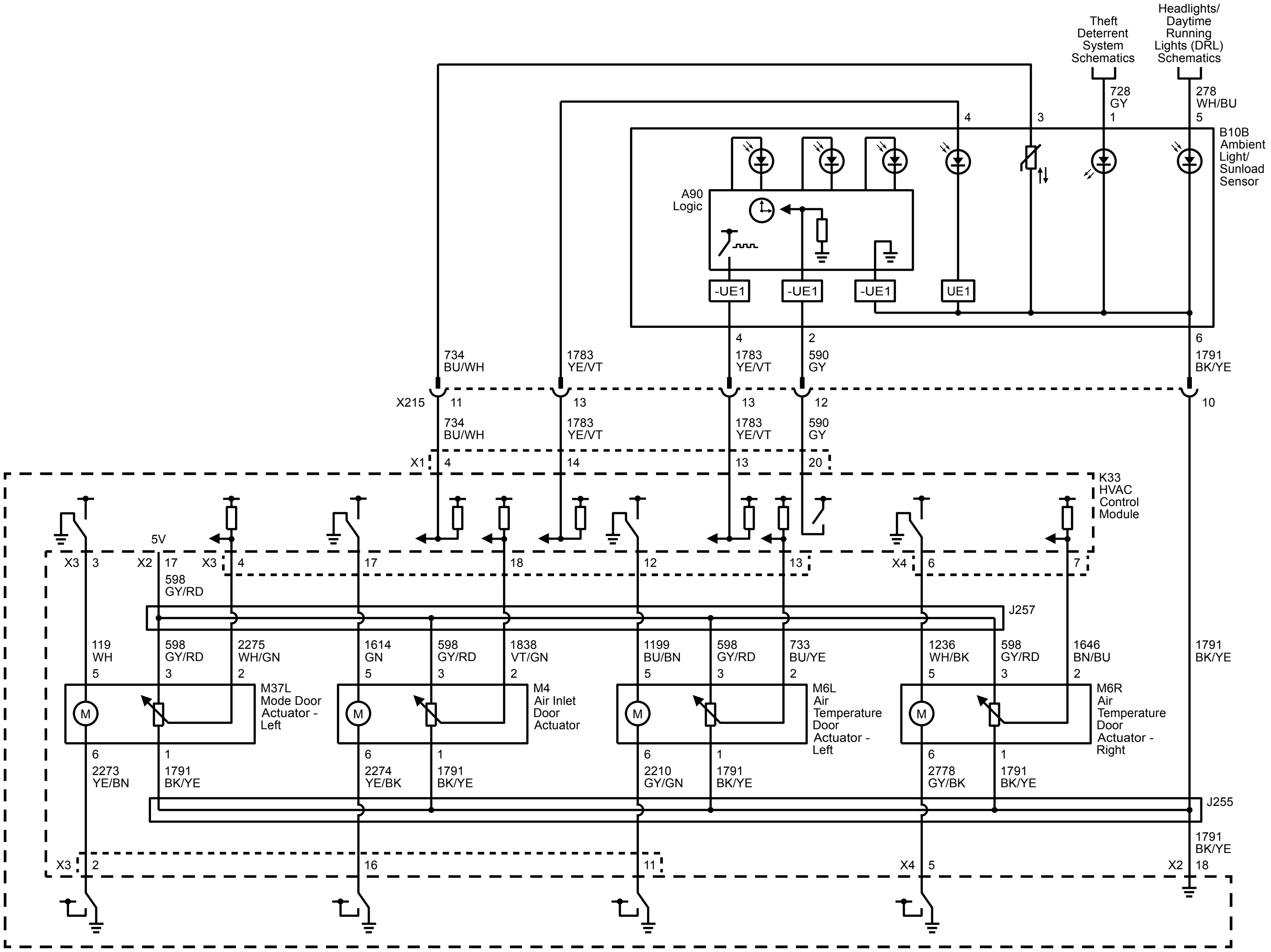
Schematic and Routing Diagrams

HVAC Schematics

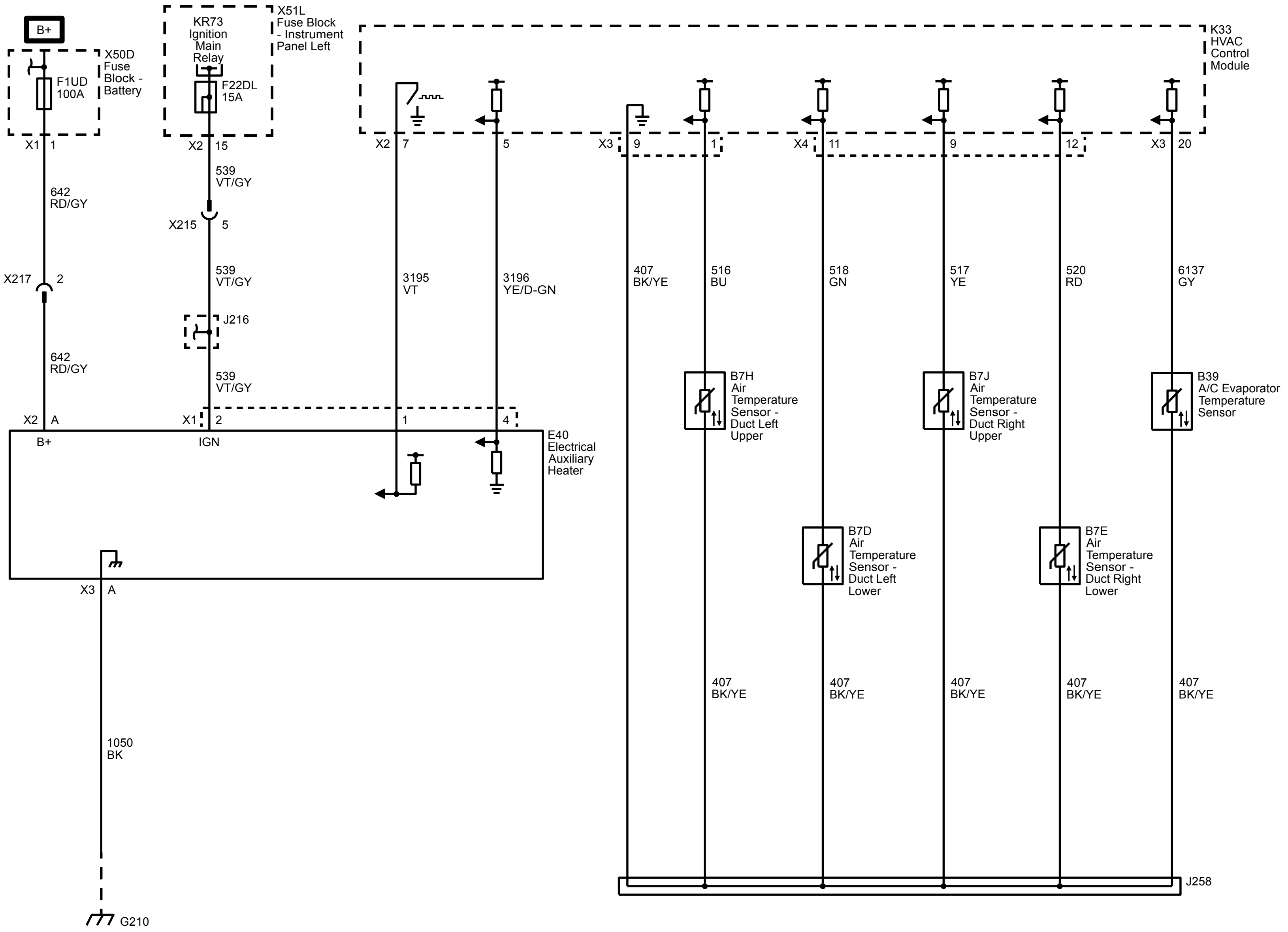
Power, Ground, Serial Data and Controls


B+
X51R
Fuse Block - Instrument Panel Right
F43DR
40A
X1
22
542
RD/VT
X217
1
542
RD/VT
B+
KR73
Ignition
Main
Relay
F22DL
15A
F26DL
10A
F34DL
10A
X51L
Fuse Block - Instrument Panel Left
X2
15
25
35
2840
RD/GY
J220
2840
RD/GY
539
VT/GY
3340
RD/VT
M8
Blower
Motor
1
M
B+
A90
Logic
6
2
1
L
O
C
D
E
S
C
A26
HVAC
Controls
A/C
AUTO
SYNC
A90
Logic
B+
A/C
AUTO
SYNC
9
3
10
7531
GN/YE
5060
GN
X215
5
4
3
539
VT/GY
(C32)
J216
1050
BK
754
BU/GY
539
VT/GY
3340
RD/VT
7531
GN/YE
5060
GN
2550
BK
X2
15
9
1
4
2
IGN
B+
K33
HVAC
Control
Module
X2
8
1851
BK/WH
G210
G218
G325

Ambient Light/Sunload Sensor and Mode Doors


Theft Deterrent System Schematics
Headlights/ Daytime Running Lights (DRL) Schematics
728 GY 1
278 WH/BU 5
4
3
B10B Ambient Light/ Sunload Sensor
A90 Logic
-UE1
-UE1
-UE1
UE1
734 BU/WH
1783 YE/VT
4 1783 YE/VT
2 590 GY
6 1791 BK/YE
X215
11
13
13
12
10
734 BU/WH
1783 YE/VT
1783 YE/VT
590 GY
X1 4
14
13
20
K33 HVAC Control Module
5V
X3 3
X2 17
X3 4
17
18
12
13
X4 6
7
598 GY/RD
J257
119 WH 5
598 GY/RD 3
2275 WH/GN 2
1614 GN 5
598 GY/RD 3
1838 VT/GN 2
1199 BU/BN 5
598 GY/RD 3
733 BU/YE 2
1236 WH/BK 5
598 GY/RD 3
1646 BN/BU 2
1791 BK/YE
M
M37L Mode Door Actuator - Left
M4 Air Inlet Door Actuator
M6L Air Temperature Door Actuator - Left
M6R Air Temperature Door Actuator - Right
6 2273 YE/BN
1 1791 BK/YE
6 2274 YE/BK
1 1791 BK/YE
6 2210 GY/GN
1 1791 BK/YE
6 2778 GY/BK
1 1791 BK/YE
J255
1791 BK/YE
X3 2
16
11
X4 5
X2 18

Auxiliary Heater (C32) and Temperature Sensors


B+
X50D
Fuse
Block -
Battery
F1UD
100A
X1 1
642
RD/GY
X217 2
642
RD/GY
X2 A
KR73
Ignition
Main
Relay
X51L
Fuse Block
- Instrument
Panel Left
F22DL
15A
X2 15
539
VT/GY
X215 5
539
VT/GY
J216
539
VT/GY
X1 2
B+
IGN
1
4
E40
Electrical
Auxiliary
Heater
X3 A
1050
BK
G210
K33
HVAC
Control
Module
X2 7
5
X3 9
1
X4 11
9
12
X3 20
3195
VT
3196
YE/D-GN
407
BK/YE
516
BU
518
GN
517
YE
520
RD
6137
GY
B7H
Air
Temperature
Sensor -
Duct Left
Upper
B7J
Air
Temperature
Sensor -
Duct Right
Upper
B39
A/C Evaporator
Temperature
Sensor
B7D
Air
Temperature
Sensor -
Duct Left
Lower
B7E
Air
Temperature
Sensor -
Duct Right
Lower
407
BK/YE
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BK/YE
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BK/YE
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BK/YE
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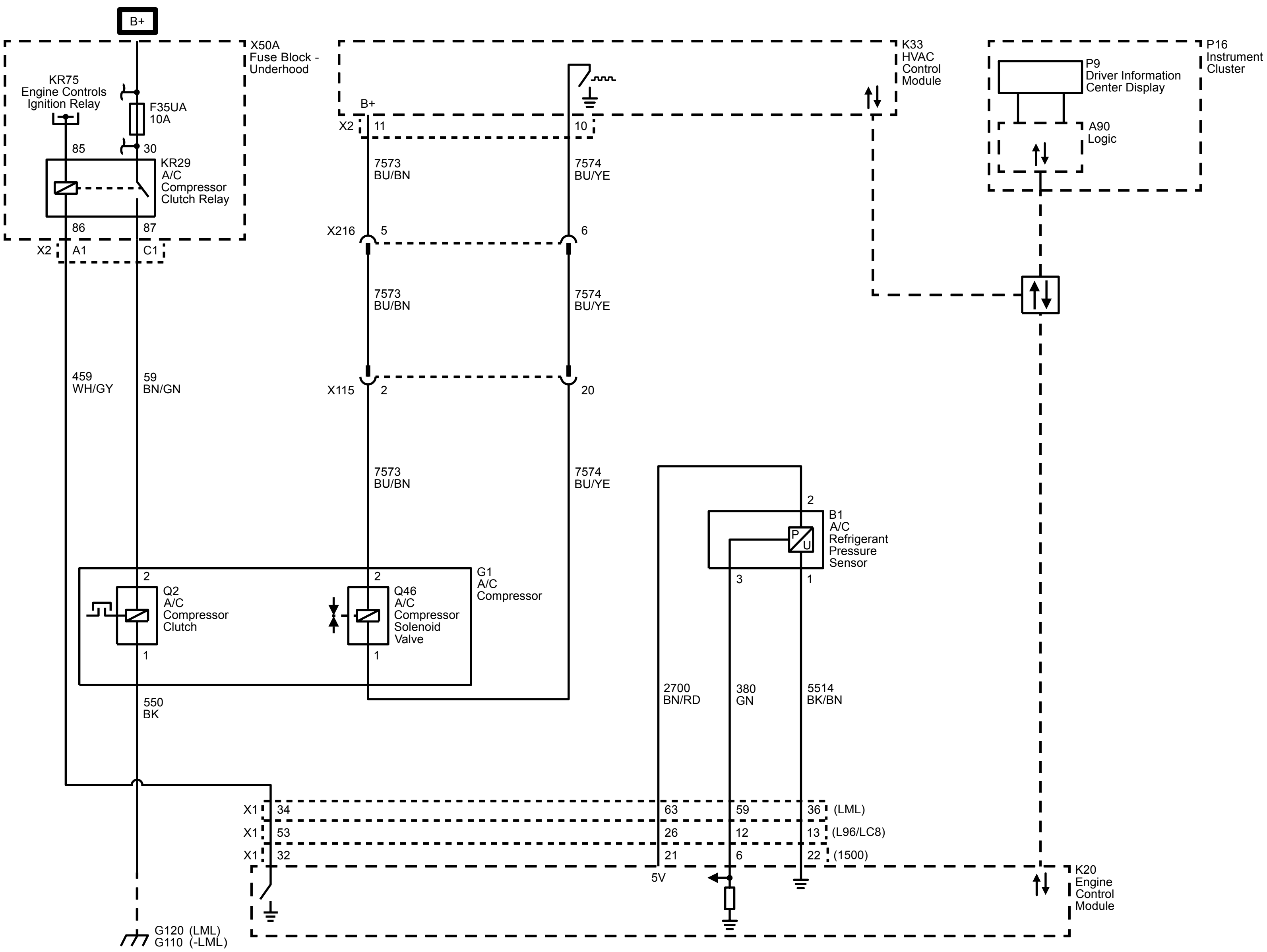
BK/YE
J258

LOC
DESC

A/C Compressor Controls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X50A
Fuse Block -
Underhood
KR75
Engine Controls
Ignition Relay
F35UA
10A
85
30
KR29
A/C
Compressor
Clutch Relay
86
87
X2
A1
C1
459
WH/GY
59
BN/GN
B+
X2
11
10
K33
HVAC
Control
Module
7573
BU/BN
7574
BU/YE
X216
5
6
7573
BU/BN
7574
BU/YE
X115
2
20
7573
BU/BN
7574
BU/YE
P16
Instrument
Cluster
P9
Driver Information
Center Display
A90
Logic
2
B1
A/C
Refrigerant
Pressure
Sensor
P
U
3
1
G1
A/C
Compressor
2
Q2
A/C
Compressor
Clutch
1
2
Q46
A/C
Compressor
Solenoid
Valve
1
550
BK
2700
BN/RD
380
GN
5514
BK/BN
X1
34
63
59
36
(LML)
X1
53
26
12
13
(L96/LC8)
X1
32
21
6
22
(1500)
5V
K20
Engine
Control
Module
G120 (LML)
G110 (-LML)

Description and Operation

Automatic HVAC Description and Operation

The air temperature and the air delivery description and operation are divided into eight areas:

- HVAC Control Components
- Air Speed (Front)
- Air Speed (Rear)
- Air Delivery (Front)
- Air Delivery (Rear)
- Heating and A/C Operation
- Recirculation Operation
- Automatic Operation
- Engine Coolant
- A/C Cycle

HVAC Control Components

HVAC Control

The HVAC control contains all switches, buttons, and dials which are required to control the functions of the HVAC system and serve as interface between the operator and the HVAC control module. The selected values are passed to the HVAC control module via LIN-Bus.

HVAC Control Module

The HVAC control module is a GMLAN device that interfaces between the operator and the HVAC system to maintain and control desired air temperature and air distribution settings. The battery positive voltage circuit provides power that the HVAC control module uses for keep alive memory. If the battery positive voltage circuit loses power, all HVAC DTCs and settings will be erased from keep alive memory. The body control module (BCM), which is the vehicle mode master, provides a device ON-Signal. The HVAC control module provides blower, air delivery mode and air temperature settings.

The HVAC control module supports the following features:

Feature	Availability
Afterblow	Available if reprogrammed by the technician
Purge	Yes
Personalization	Yes
Actuator Calibration	Yes

Actuators

Doors in the HVAC case assembly are used to control air flow. The HVAC control module operates the doors through the use of actuators, with one actuator being used for each door. The system has the following air control doors and associated actuators: mode, left and right temperature, and recirculation.

Each actuator used in the system is a 5-wire bi-directional electric motor that incorporate a feedback potentiometer. The five circuits are, low reference, 5 V reference, actuator position signal, and two control circuits. The control circuits use either a ground or 12 V value to coordinate the actuator movement. In order to move the actuator, the HVAC control module grounds one of the control circuits while providing the other with 12 V. The HVAC control module reverses the polarity of the control circuits to move the actuator in the opposite direction.

When the actuator shaft rotates, the potentiometer’s sliding contact changes the door position signal between 0–5 V. The HVAC control module converts the voltage signal to counts. The total range of the counts is 0–1024, with an operating range between 20–1000. The actual operating range of an actuator is determined during calibration. During calibration, the actuator is moved though its full range of travel and the module stores the minimum and maximum value. Based on the desired system operation, the module sets a commanded, or targeted, value for the actuators. The control circuits are operated to move the door to the required position, and the changing position signal is sent to the module. Once the actual position signal and the commanded value are the same, the module ceases operating the control circuits and the actuator (and door) remain in the desired position.

Blower Motor

The blower motor control module is an interface between the HVAC control module and the blower motor. The blower motor speed control from the HVAC control module, battery positive and ground circuits enable the blower motor control module to operate. The HVAC control module provides a pulse width modulation (PWM) signal to the blower motor control module in order to command the blower motor speed. The blower motor control module transfers the PWM signal into a corresponding blower motor voltage.

Duct Temperature Sensors

The air temperature sensors are 2-wire negative temperature co-efficient thermistors. The sensors operate within a temperature range of −40 to +85°C (−40 to +185°F). The sensors are installed in the air distribution ducts and measure the temperature of the air that streams from the ducts. The HVAC control module uses these values to adjust the mixed air flap position according to the requested temperature.

Evaporator Temperature Sensor

The evaporator temperature sensor is a 2-wire negative temperature co-efficient thermistor. The sensor operates within a temperature range of −40 to +85°C (−40 to +185°F). The sensor is installed at the evaporator and measures its temperature. If the temperature drops under 3°C (38°F), the compressor will be switched off in order to prevent evaporator icing.

A/C Refrigerant Pressure Sensor

The A/C refrigerant pressure sensor is a 3-wire piezoelectric pressure transducer. A 5 V reference voltage, low reference, and signal circuits enable the sensor to operate. The A/C pressure signal can be between 0.2–4.8 V. When the A/C refrigerant pressure is low, the signal value is near 0 V. When the A/C refrigerant pressure is high, the signal value is near 5 V. The engine control module (ECM) converts the voltage signal to a pressure value. When pressure is too high or too low, the ECM will not allow the A/C compressor clutch to engage.

A/C Compressor

The A/C compressor uses a conventional belt driven magnetic clutch to engage and mechanically turn the compressor. When the A/C switch is pressed, the HVAC control module sends an A/C request message to the ECM via serial data. If specific criteria is met, the ECM then grounds the A/C compressor clutch relay control circuit, which will switch the A/C compressor clutch relay. With the relay contacts closed, battery voltage is supplied to the permanently grounded A/C compressor clutch. The A/C compressor clutch will then be activated.

This A/C system utilizes a variable displacement solenoid valve to alter the amount of displacement created by the turning of the compressor. The HVAC control module provides both battery voltage and a pulse width modulated ground to the variable displacement solenoid valve. When the A/C switch is pressed, the HVAC control module grounds the variable displacement solenoid using a (PWM) signal in order to determine the amount of compressor displacement. The performance of the A/C compressor is regulated based on cooling load.

Ambient Light/Sunload Sensor

The sunload sensor is connected to ground and to a 12 V clocked power supply through the HVAC control module. This clocked power supply is to power the sensor electronics and to work as a clock generator to the sunload sensor micro controller. The sensor uses a pulse signal for data identification and transferring the sun intensity measurement. At each positive transition from the clocked supply input, the sunload sensor micro controller will shift channels enabling new intensity measurement on the signal output to the HVAC control module. The signal voltage varies between 0–4 V.

The passenger compartment temperature sensor is a negative temperature co-efficient thermistor. A signal and low reference circuit enables the sensor to operate. As the air temperature increases, the sensor resistance decreases. The sensor signal varies between 0–5 V.

Bright or high intensity light causes the vehicles interior temperature to increase. The HVAC system compensates for the increased temperature by diverting additional cool air into the vehicle.

Air Speed

The blower control switch is part of the HVAC controls. The selected value of the blower switch position is sent to the HVAC control module via LIN-Bus. The blower motor control circuitry is integrated within the blower motor assembly. The HVAC control module provides a low side pulse width modulation (PWM) signal to the blower motor to request a specific motor speed. The blower motor translates the PWM signal and drives the motor accordingly.

Afterblow

Afterblow is a feature that dries the evaporator core by operating the blower motor after the engine is turned OFF. This reduces the amount of microbial growth that can create undesirable odors. The vehicle does not come equipped with the afterblow feature turned ON. If the afterblow feature is required due to an odor concern, it must be enabled using the scan tool Afterblow configuration function.

After the HVAC control module has been programmed for afterblow, the following conditions must be met for afterblow to operate:

- The engine has been turned OFF for at least 30 minutes.
- The ambient air temperature is at least 21°C (70°F).
- The A/C compressor operated for more than 2 minutes before shut down.
- The system voltage is at least 12 volts.

Once the above conditions have been met, the blower motor will perform the following sequence up to 5 times. This could last up to an hour:

1. The blower motor will be OFF for 7–11 minutes.
2. The blower motor will RUN for 25–30 seconds.

Air Delivery

The HVAC control module controls the distribution of air by the use of recirculation and mode door actuator. The modes that may be selected are:

- Defrost
- Defog
- Panel
- Floor

The desired air distribution mode can be selected with the air distribution switches at the HVAC control. The HVAC control delivers the values to the HVAC control module via LIN-Bus. The HVAC control module controls the mode door actuator so that it drives the flap to the calculated position. Depending on the position of the flap, air is distributed through various ducts leading to the outlets in the dash. Turning the mode flap to the defrost position, the HVAC control module will move the recirculation actuator to outside air, reducing window fogging. When defrost is selected, the blower motor will be activated, regardless of the coolant temperature. The HVAC control module enables a high volume of air delivered to the front defrost vents. A/C is available in all modes.

The rear window defogger does not affect the HVAC system.

Heating and A/C Operation

The purpose of the heating and A/C system is to provide heated and cooled air to the interior of the vehicle. The A/C system will also remove humidity from the interior and reduce windshield fogging. Regardless of the temperature setting, the following can affect the rate that the HVAC system can achieve the desired temperature:

- Recirculation actuator setting
- Difference between inside and desired temperature
- Blower motor speed setting
- Mode setting

When the A/C switch is pressed, the HVAC controls sends a signal to the HVAC control module via LIN-Bus. The HVAC control module evaluates this signal and sends an A/C request signal to the ECM via CAN-Bus. The ECM checks all preconditions before releasing and if all conditions are met sends a release signal back to the HVAC control module. The ECM will provide a ground for the A/C compressor relay enabling it to close its internal contacts to send battery voltage to the A/C compressor clutch coil. The A/C compressor clutch will be activated. The performance of the A/C compressor is regulated via a variable A/C compressor solenoid valve. The HVAC control module supplies battery voltage to the A/C compressor. When the A/C switch is pressed, the HVAC control module provides a pulse width modulation (PWM) signal to the A/C compressor solenoid valve in order to command the performance of the A/C compressor.

The following conditions must be met in order to activate the A/C compressor:

- Battery voltage is between 9–18 V
- Engine coolant temperature is less than 124°C (255°F)
- Engine speed is greater than 600 RPM
- Engine speed is less than 5 500 RPM
- A/C high side pressure is between 269–2 929 kPa (39–425 PSI)
- Throttle position is less than 100%
- Evaporator temperature is greater than 3°C (38°F)
- ECM does not detect immoderate torque load
- ECM does not detect insufficient idle quality
- The ambient temperature is above 1°C (34°F)

The sensor information is used by the ECM to determine the following:

- The A/C high side pressure
- An A/C system load on the engine
- An immoderate A/C high side pressure
- The heat load at the A/C condenser

The air streams into the passenger compartment through the heater core and the evaporator core. The air temperature actuator drives the mixed air flap to direct the airflow. If the interior temperature should be increased, the mixed air flap is put into the position in which more air streams through the heater core. If the interior temperature should be decreased, the mixed air flap is put into the position in which more air streams through the evaporator core.

Recirculation Operation

The recirculation switch is integrated into the HVAC control. The selected recirculation switch position is sent to the HVAC control module via LIN-Bus. The HVAC control module controls the air intake using the recirculation actuator. In recirculation mode the recirculation flap opens in order to circulate the air within the vehicle. In fresh air mode the recirculation flap is closed in order to route outside air into the vehicle.

Automatic Operation

In automatic operation, the HVAC control module maintains the comfort level inside of the vehicle by controlling the A/C compressor clutch, the blower motor, the air temperature actuators, mode actuator and recirculation actuator.

To put the HVAC system in automatic mode, the following is required:

1. The auto switch must be activated.
2. The air temperature switch must not be in either the full hot or full cold position.

Once the desired temperature is reached, the blower motor, mode, recirculation and temperature actuators automatically adjust to maintain the temperature selected. The HVAC control module performs the following functions to maintain the desired air temperature:

- Monitors the following sensors:
  - Ambient air temperature sensor
  - Lower left duct air temperature sensor
  - Lower right duct air temperature sensor
  - Upper left duct air temperature sensor
  - Upper right duct air temperature sensor
  - Ambient light/sunload sensor
- Regulate the blower motor speed
- Position the air temperature actuators
- Position the mode door actuator
- Position the recirculation actuator
- Request A/C operation
- Control of the A/C compressor

When the warmest position is selected in automatic operation the blower speed will increase gradually until the vehicle reaches normal operating temperature. When normal operating temperature is reached the blower stays on high speed and the air temperature actuators stays in the full heat position.

When the coldest position is selected in automatic operation the blower stays on high and the air temperature actuators stay in full cold position. The mode actuator remains in the panel position and the recirculation actuator will remain in the recirculation position.

Under cold ambient temperatures, the automatic HVAC system provides heat in the most efficient manner. The operator can select an extreme temperature setting but the system will not warm the vehicle any faster. Under warm ambient temperatures, the automatic HVAC system also provides air conditioning in the most efficient manner. Selecting an extreme cool temperature will not cool the vehicle any faster.

Electric Auxiliary Heater

Some models are equipped with an auxiliary electric heater to assist in warming the passenger compartment when the engine coolant has not sufficiently warmed to operating temperature. The heater is a 12 V positive temperature coefficient heating element located in the HVAC case just downstream of the traditional heater core. The HVAC control module will activate it when the outside temperature is less than approximately 8°C (46°F), the engine coolant temperature is less than approximately 75°C (167°F), and the temperature blend door is commanded to the full hot position.

Engine Coolant

Engine coolant is the essential element of the heating system. The thermostat controls the normal engine operating coolant temperature. The thermostat also creates a restriction for the cooling system that promotes a positive coolant flow and helps prevent cavitation.

Coolant enters the heater core through the inlet heater hose, in a pressurized state. The heater core is located inside the HVAC control module. The ambient air drawn through the HVAC control module absorbs the heat of the coolant flowing through the heater core. Heated air is distributed to the passenger compartment, through the HVAC control module, for passenger comfort. Opening or closing the air temperature flap controls the amount of heat delivered to the passenger compartment. The coolant exits the heater core through the return heater hose and recirculates back to the engine cooling system.

A/C Cycle

Refrigerant is the key element in an air conditioning system. There are currently two approved Environmental Protection Agency refrigerants. They are R134a and R-1234yf, and either one could be used in this vehicle. R-1234yf is a newly EPA approved refrigerant, and it will require the use of an updated Air Conditioning Refrigerant Recovery/Recharge Cart/System. Refer to CELL Link Error - Link target cell (cell ID 48139) is invalid for this publication. for correct tool usage. Both refrigerants are very low temperature gases that can transfer the undesirable heat and moisture from the passenger compartment to the outside air.

The compressor builds pressure on the vapor refrigerant. Compressing the refrigerant also adds heat to the refrigerant. The refrigerant is discharged from the compressor, through the discharge hose, and forced to flow to the condenser and then through the balance of the A/C system. The A/C system is mechanically protected with the use of a high pressure relief valve. If the A/C refrigerant pressure sensor fails or if the refrigerant system becomes restricted and refrigerant pressure continued to rise, the high pressure relief will pop open and release refrigerant from the system.

Compressed refrigerant enters the condenser in a high temperature, high pressure vapor state. As the refrigerant flows through the condenser, the heat of the refrigerant is transferred to the ambient air passing through the condenser. Cooling the refrigerant causes the refrigerant to condense and change from a vapor to a liquid state.

The condenser is located in front of the radiator for maximum heat transfer. The condenser is made of aluminum tubing and aluminum cooling fins, which allows rapid heat transfer for the refrigerant. The semi-cooled liquid refrigerant exits the condenser and flows to the Receiver/Dehydrator(R/D).

The R/D contains desiccant that absorbs moisture that may be in the refrigerant system. The R/D also acts as a storage vessel to ensure that a steady flow of liquid reaches the thermal expansion valve. The refrigerant exits the R/D and flows through the liquid line to the thermal expansion valve.

The thermal expansion valve is located at the front of dash and attaches to the evaporator inlet and outlet pipes. The thermal expansion valve is the dividing point for the high and the low pressure sides of the A/C system. As the refrigerant passes through the thermal expansion valve, the pressure on the refrigerant is lowered. The thermal expansion valve also meters the amount of liquid refrigerant that can flow into the evaporator.

Refrigerant exiting the thermal expansion valve flows into the evaporator core in a low pressure, liquid state. Ambient air is drawn through the HVAC control module and passes through the evaporator core. Warm and moist air will cause the liquid refrigerant boil inside of the evaporator core. The boiling refrigerant absorbs heat from the ambient air and draws moisture onto the evaporator. The refrigerant exits the evaporator through the suction line and back to the A/C compressor, in a vapor state, and completing the A/C cycle of heat removal. At the A/C compressor, the refrigerant is compressed again and the cycle of heat removal is repeated.

The conditioned air is distributed through the HVAC control module for passenger comfort. The heat and moisture removed from the passenger compartment will also change form, or condense, and is discharged from the HVAC control module as water.

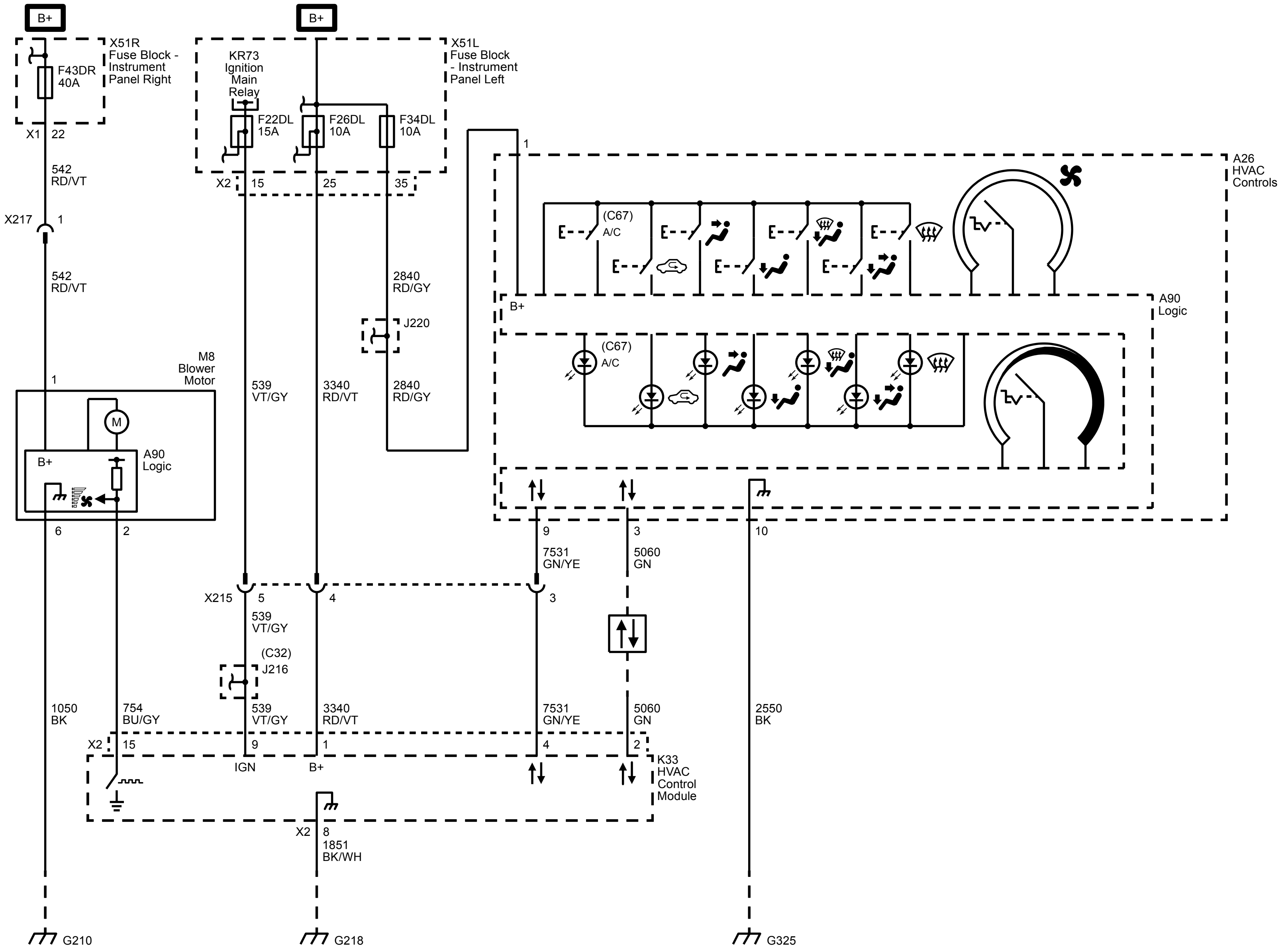
HVAC

HVAC - Manual

Schematic and Routing Diagrams

HVAC Schematics

Power, Ground, Serial Data and Controls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Motor
M
B+
A90
Logic
6
2
1050
BK
754
BU/GY
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Fuse Block - Instrument Panel Left
KR73
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B+
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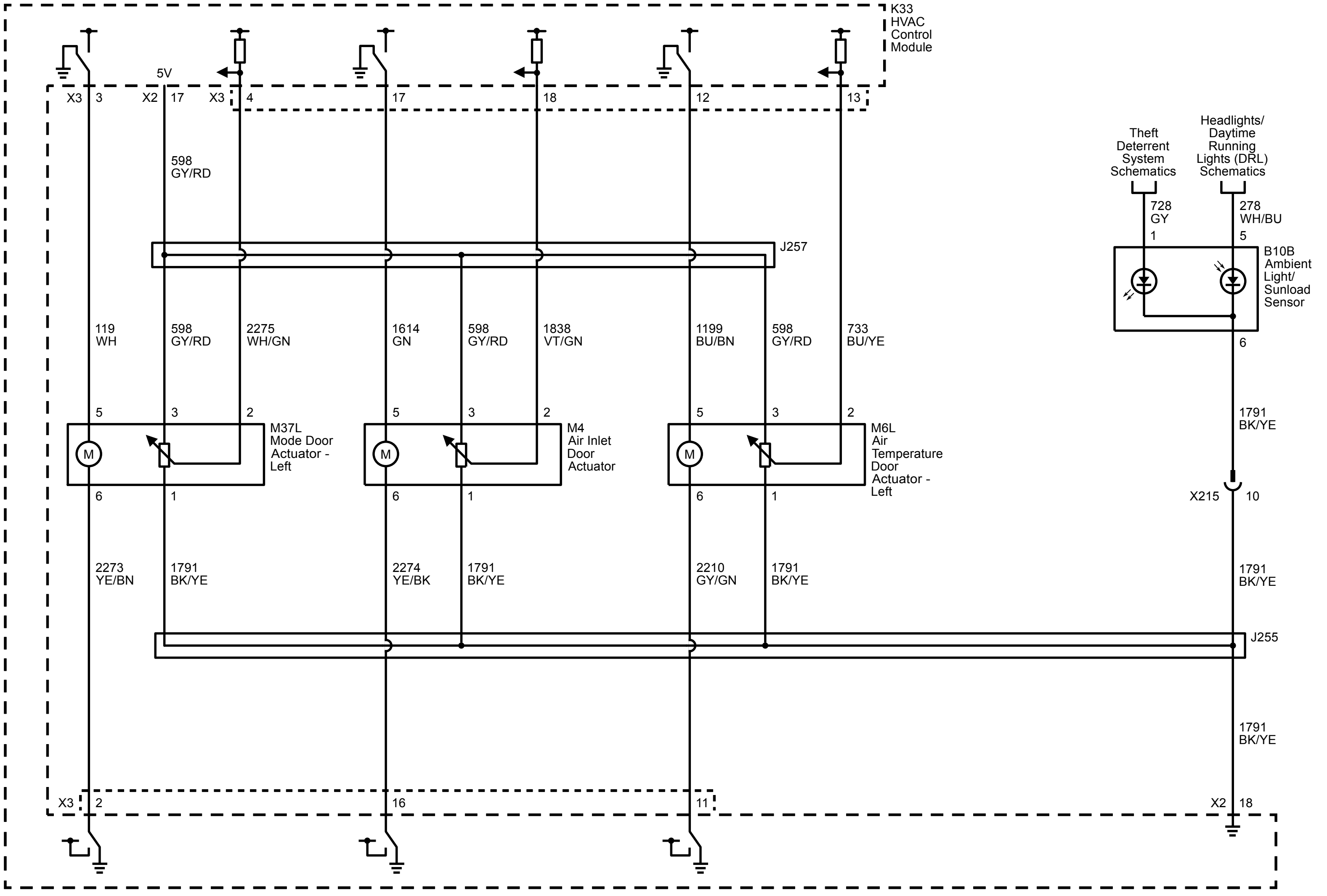
G218
G325

Ambient Light/Sunload Sensor and Mode Doors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GN
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GY/RD
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VT/GN
1199
BU/BN
598
GY/RD
733
BU/YE
5 3 2
M37L
Mode Door
Actuator -
Left
M
6 1
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M4
Air Inlet
Door
Actuator
M
6 1
5 3 2
M6L
Air
Temperature
Door
Actuator -
Left
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6 1
2273
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BK/YE
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YE/BK
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BK/YE
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GY/GN
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16
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Theft
Deterrent
System
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Headlights/
Daytime
Running
Lights (DRL)
Schematics
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GY
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WH/BU
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B10B
Ambient
Light/
Sunload
Sensor
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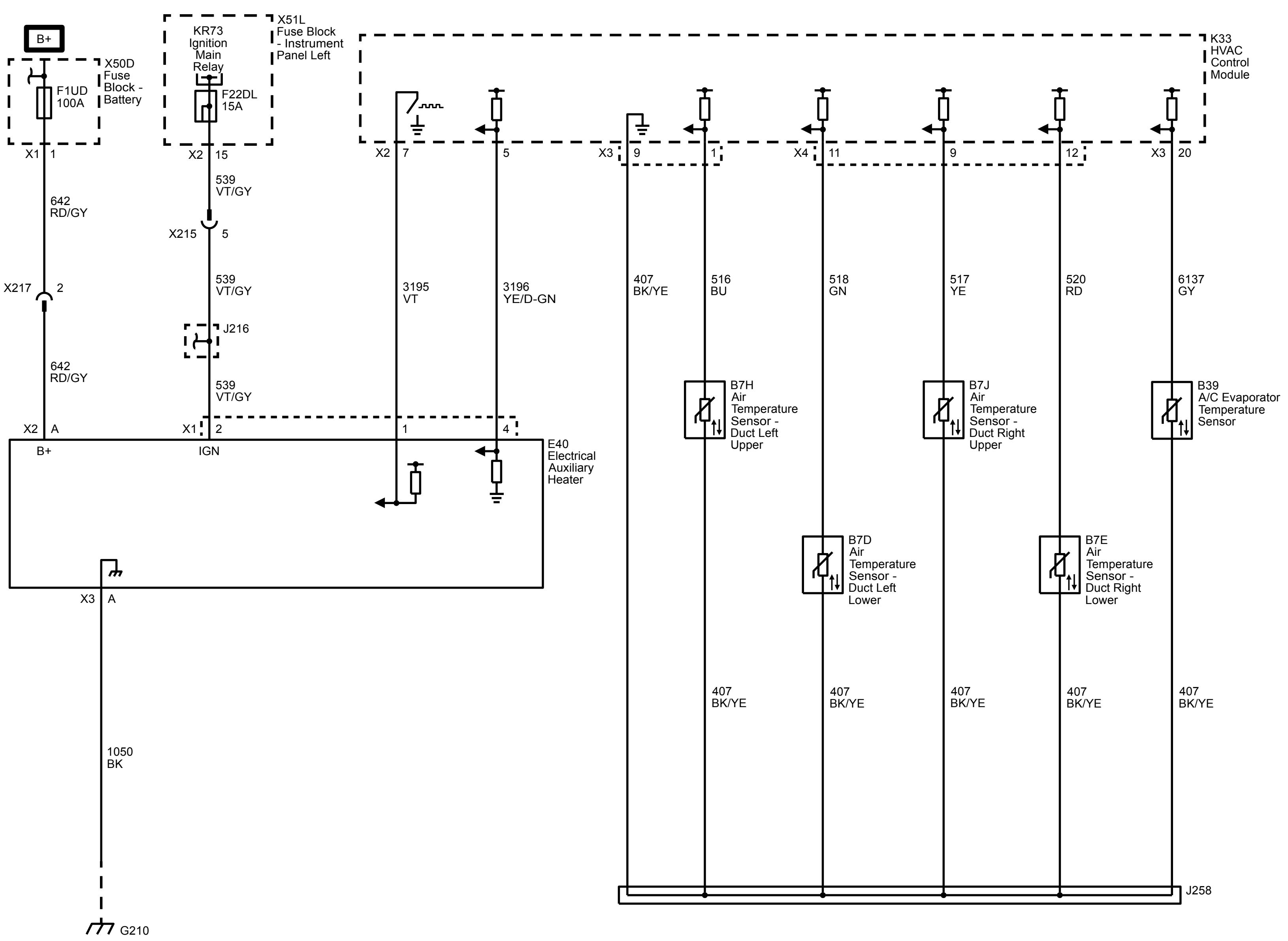
BK/YE
X2 18

Auxiliary Heater (C32) and Temperature Sensors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Main
Relay
X51L
Fuse Block
- Instrument
Panel Left
F22DL
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VT/GY
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VT/GY
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VT/GY
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Auxiliary
Heater
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BK
G210
K33
HVAC
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Module
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X4 11
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12
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BU
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Sensor -
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Upper
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A/C Evaporator
Temperature
Sensor
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Air
Temperature
Sensor -
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Temperature
Sensor -
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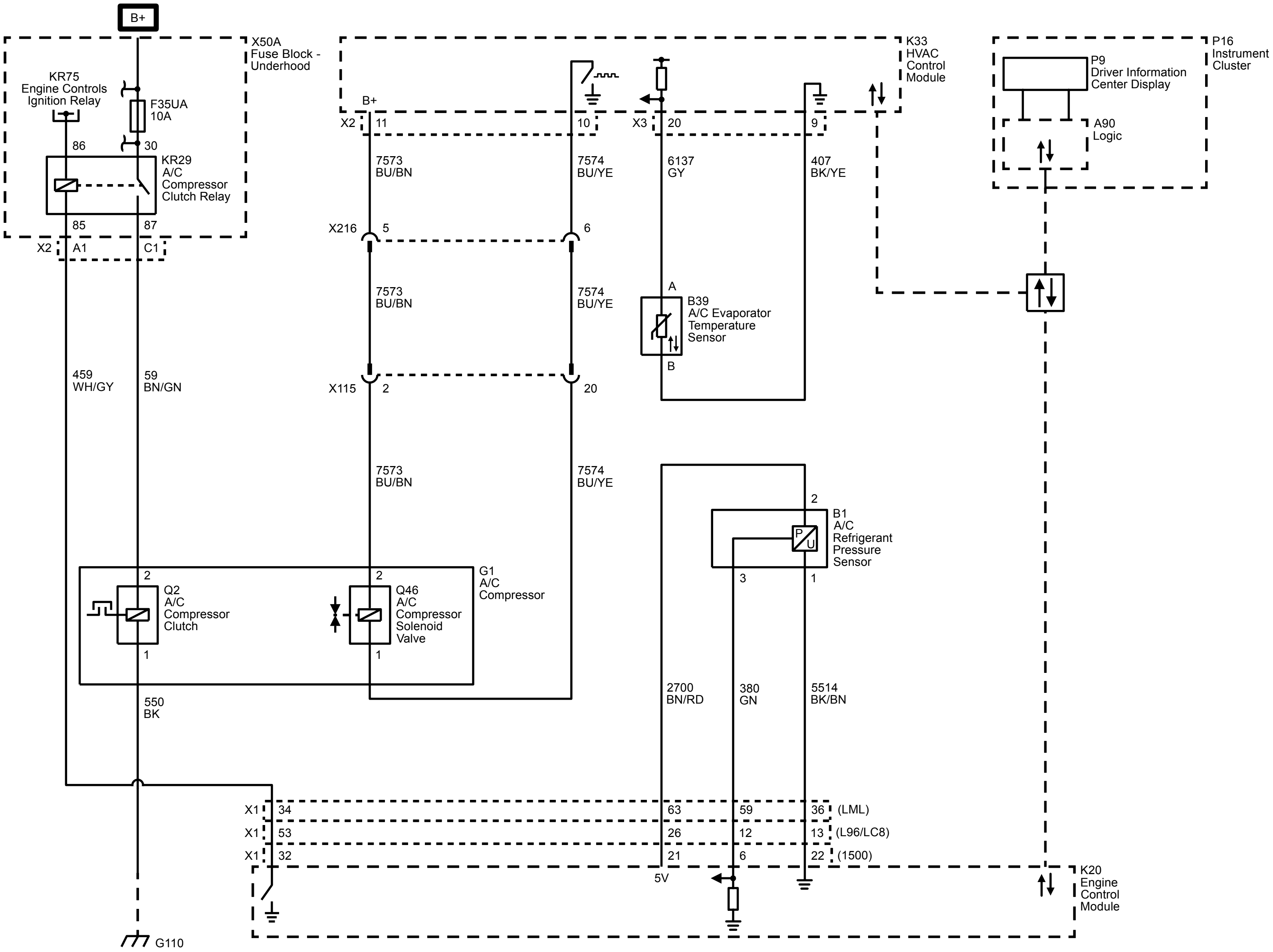
A/C Compressor Controls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Clutch Relay
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87
X2
A1
C1
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WH/GY
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BN/GN
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HVAC
Control
Module
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X2
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BK/YE
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Refrigerant
Pressure
Sensor
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Compressor
Clutch
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BK
2700
BN/RD
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GN
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BK/BN
X1
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63
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X1
53
26
12
13
(L96/LC8)
X1
32
21
6
22
(1500)
5V
K20
Engine
Control
Module
G110
P16
Instrument
Cluster
P9
Driver Information
Center Display
A90
Logic

Description and Operation

Manual HVAC Description and Operation

The air temperature and the air delivery description and operation are divided into seven areas:

- HVAC Control Components
- Air Speed
- Air Delivery
- Heating and A/C Operation
- Recirculation Operation
- Engine Coolant
- A/C Cycle

HVAC Control Components

HVAC Controls

The HVAC controls contains all switches, which are required to control the functions of HVAC and serve as interface between the operator and the HVAC control module. The selected values are passed to the HVAC control module via LIN-Bus.

HVAC Control Module

The HVAC control module is a GMLAN device that interfaces between the operator and the HVAC system to maintain and control desired air temperature and air distribution settings. The battery positive voltage circuit provides power that the HVAC control module uses for keep alive memory. If the battery positive voltage circuit loses power, all HVAC DTCs and settings will be erased from keep alive memory. The body control module (BCM), which is the vehicle mode master, provides a device ON-Signal. The HVAC control module provides blower, air delivery mode and air temperature settings.

The HVAC control module supports the following features:

Feature	Availability
Afterblow	Yes
Personalization	Yes
Actuator Calibration	Yes

Actuators

Doors in the HVAC case assembly are used to control air flow. The HVAC control module operates the doors through the use of actuators, with one actuator being used for each door. The system has the following air control doors and associated actuators: mode, temperature, and recirculation.

Each actuator used in the system is a 5-wire bi-directional electric motor that incorporate a feedback potentiometer. The five circuits are, low reference, 5 V reference, actuator position signal, and two control circuits. The control circuits use either a ground or 12 V value to coordinate the actuator movement. In order to move the actuator, the HVAC control module grounds one of the control circuits while providing the other with 12 V. The HVAC control module reverses the polarity of the control circuits to move the actuator in the opposite direction.

When the actuator shaft rotates, the potentiometer’s sliding contact changes the door position signal between 0–5 V. The HVAC control module converts the voltage signal to counts. The total range of the counts is 0–1024, with an operating range between 20–1000. The actual operating range of an actuator is determined during calibration. During calibration, the actuator is moved though its full range of travel and the module stores the minimum and maximum value. Based on the desired system operation, the module sets a commanded, or targeted, value for the actuators. The control circuits are operated to move the door to the required position, and the changing position signal is sent to the module. Once the actual position signal and the commanded value are the same, the module ceases operating the control circuits and the actuator (and door) remain in the desired position.

Blower Motor Assembly

The blower motor speed control signal from the HVAC Control Module, battery positive and ground circuits enable the blower motor to operate. The blower motor control circuitry is integrated within the blower motor assembly. The HVAC control module provides a low side pulse width modulation (PWM) signal to the blower motor to request a specific motor speed. The blower motor translates the PWM signal and drives the motor accordingly.

Evaporator Temperature Sensor

The evaporator temperature sensor is a 2-wire negative temperature co-efficient thermistor. The sensor operates within a temperature range of −40 to +85°C (−40 to +185°F). The sensor is installed at the evaporator and measures its temperature. If the temperature drops under 3°C (38°F), the compressor will be switched off in order to prevent evaporator icing.

A/C Refrigerant Pressure Sensor

The A/C refrigerant pressure sensor is a 3-wire piezoelectric pressure transducer. A 5 V reference voltage, low reference, and signal circuits enable the sensor to operate. The A/C pressure signal can be between 0.2–4.8 V. When the A/C refrigerant pressure is low, the signal value is near 0 V. When the A/C refrigerant pressure is high, the signal value is near 5 V. The engine control module (ECM) converts the voltage signal to a pressure value. When pressure is too high or too low, the ECM will not allow the A/C compressor clutch to engage.

A/C Compressor

The A/C compressor uses a conventional belt driven magnetic clutch to engage and mechanically turn the compressor. When the A/C switch is pressed, the HVAC control module sends an A/C request message to the ECM via serial data. If specific criteria is met, the ECM then grounds the A/C compressor clutch relay control circuit, which will switch the A/C compressor clutch relay. With the relay contacts closed, battery voltage is supplied to the permanently grounded A/C compressor clutch. The A/C compressor clutch will then be activated.

This A/C system utilizes a variable displacement solenoid valve to alter the amount of displacement created by the turning of the compressor. The HVAC control module provides both battery voltage and a pulse width modulated ground to the variable displacement solenoid valve. When the A/C switch is pressed, the HVAC control module grounds the variable displacement solenoid using a (PWM) signal in order to determine the amount of compressor displacement. The performance of the A/C compressor is regulated based on cooling load.

Air Speed

The blower control switch is part of the HVAC controls. The selected value of the blower switch position is sent to the HVAC control module via LIN-Bus. The blower motor control circuitry is integrated within the blower motor assembly. The HVAC control module provides a low side pulse width modulation (PWM) signal to the blower motor to request a specific motor speed. The blower motor translates the PWM signal and drives the motor accordingly.

Air Delivery

The HVAC control module controls the distribution of air by the use of recirculation and mode actuator. The modes that may be selected are:

- Defrost
- Defog
- Panel
- Floor

The desired air distribution mode can be selected with the air distribution switches at the HVAC controls. The HVAC controls delivers the values to the HVAC control module via LIN-Bus. The HVAC control module controls the air distribution actuator so that it drives the flap to the calculated position. Depending on the position of the flap, air is distributed through various ducts leading to the outlets in the dash. Turning the mode flap to the defrost position, the HVAC control module will move the recirculation actuator to outside air, reducing window fogging. When defrost is selected, the blower motor will be activated, regardless of the coolant temperature. The HVAC control module enables a high volume of air delivered to the front defrost vents. A/C is available in all modes.

The rear window defogger does not affect the HVAC system.

Heating and A/C Operation

The purpose of the heating and A/C system is to provide heated and cooled air to the interior of the vehicle. The A/C system will also remove humidity from the interior and reduce windshield fogging. Regardless of the temperature setting, the following can affect the rate that the HVAC system can achieve the desired temperature:

- Recirculation actuator setting
- Difference between inside and desired temperature
- Blower motor speed setting
- Mode setting

When the A/C switch is pressed, the HVAC controls sends a signal to the HVAC control module via LIN-Bus. The HVAC control module evaluates this signal and sends an A/C request signal to the ECM via CAN-Bus. The ECM checks all preconditions before releasing and if all conditions are met sends a release signal back to the HVAC control module. The ECM will provide a ground for the A/C compressor relay enabling it to close its internal contacts to send battery voltage to the A/C compressor clutch coil. The A/C compressor clutch will be activated. The performance of the A/C compressor is regulated via a variable A/C compressor solenoid valve. The HVAC control module supplies battery voltage to the A/C compressor. When the A/C switch is pressed, the HVAC control module provides a pulse width modulation (PWM) signal to the A/C compressor solenoid valve in order to command the performance of the A/C compressor.

The following conditions must be met in order to activate the A/C compressor:

- Battery voltage is between 9–18 V
- Engine coolant temperature is less than 124°C (255°F)
- Engine speed is greater than 600 RPM
- Engine speed is less than 5 500 RPM
- A/C high side pressure is between 269–2 929 kPa (39–425 PSI)
- Throttle position is less than 100%
- Evaporator temperature is greater than 3°C (38°F)
- ECM does not detect immoderate torque load
- ECM does not detect insufficient idle quality
- The ambient temperature is above 1°C (34°F)

The sensor information is used by the ECM to determine the following:

- The A/C high side pressure
- An A/C system load on the engine
- An immoderate A/C high side pressure
- The heat load at the A/C condenser

The air streams into the passenger compartment through the heater core and the evaporator core. The air temperature actuator drives the mixed air flap to induce the airflow. If the interior temperature should be increased, the mixed air flap is put into the position in which more air streams through the heater core. If the interior temperature should be decreased, the mixed air flap is put into the position in which more air streams through the evaporator core.

Recirculation Operation

The recirculation switch is part of the HVAC controls. The selected recirculation switch position is sent to the HVAC control module via LIN-Bus. The HVAC control module controls the air intake through the recirculation actuator. The recirculation switch closes the recirculation flap in order to circulate the air within the vehicle. Through renewed selection of the recirculation switch, the recirculation flap is opened again in order to route outside air into the vehicle.

Recirculation is only available if the defrost mode is not active. When the defrost mode is active, the recirculation actuator opens the recirculation flap and outside air is circulated to the windshield to reduce fogging.

Electric Auxiliary Heater

Some models are equipped with an auxiliary electric heater to assist in warming the passenger compartment when the engine coolant has not sufficiently warmed to operating temperature. The heater is a 12 V positive temperature coefficient heating element located in the HVAC case just downstream of the traditional heater core. The HVAC control module will activate it when the outside temperature is less than approximately 8°C (46°F), the engine coolant temperature is less than approximately 75°C (167°F), and the temperature blend door is commanded to the full hot position.

Engine Coolant

Engine coolant is the essential element of the heating system. The thermostat controls the normal engine operating coolant temperature. The thermostat also creates a restriction for the cooling system that promotes a positive coolant flow and helps prevent cavitation.

Coolant enters the heater core through the inlet heater hose, in a pressurized state. The heater core is located inside the HVAC module. The ambient air drawn through the HVAC module absorbs the heat of the coolant flowing through the heater core. Heated air is distributed to the passenger compartment, through the HVAC module, for passenger comfort. Opening or closing the air temperature flap controls the amount of heat delivered to the passenger compartment. The coolant exits the heater core through the return heater hose and recirculates back to the engine cooling system.

A/C Cycle

Refrigerant is the key element in an air conditioning system. R-134a is presently the only Environmental Protection Agency approved refrigerant for automotive use. R-134a is a very low temperature gas that can transfer the undesirable heat and moisture from the passenger compartment to the outside air.

The compressor builds pressure on the vapor refrigerant. Compressing the refrigerant also adds heat to the refrigerant. The refrigerant is discharged from the compressor, through the discharge hose, and forced to flow to the condenser and then through the balance of the A/C system. The A/C system is mechanically protected with the use of a high pressure relief valve. If the A/C refrigerant pressure sensor fails or if the refrigerant system becomes restricted and refrigerant pressure continued to rise, the high pressure relief will pop open and release refrigerant from the system.

Compressed refrigerant enters the condenser in a high temperature, high pressure vapor state. As the refrigerant flows through the condenser, the heat of the refrigerant is transferred to the ambient air passing through the condenser. Cooling the refrigerant causes the refrigerant to condense and change from a vapor to a liquid state.

The condenser is located in front of the radiator for maximum heat transfer. The condenser is made of aluminum tubing and aluminum cooling fins, which allows rapid heat transfer for the refrigerant. The semi-cooled liquid refrigerant exits the condenser and flows to the Receiver/Dehydrator (R/D).

The R/D contains desiccant that absorbs moisture that may be in the refrigerant system. The R/D also acts as a storage vessel to ensure that a steady flow of liquid reaches the thermal expansion valve. The refrigerant exits the R/D and flows through the liquid line to the thermal expansion valve.

The thermal expansion valve is located at the front of dash and attaches to the evaporator inlet and outlet pipes. The thermal expansion valve is the dividing point for the high and the low pressure sides of the A/C system. As the refrigerant passes through the thermal expansion valve, the pressure on the refrigerant is lowered. The thermal expansion valve also meters the amount of liquid refrigerant that can flow into the evaporator.

Refrigerant exiting the thermal expansion valve flows into the evaporator core in a low pressure, liquid state. Ambient air is drawn through the HVAC module and passes through the evaporator core. Warm and moist air will cause the liquid refrigerant boil inside of the evaporator core. The boiling refrigerant absorbs heat from the ambient air and draws moisture onto the evaporator. The refrigerant exits the evaporator through the suction line and back to the A/C compressor, in a vapor state, and completing the A/C cycle of heat removal. At the A/C compressor, the refrigerant is compressed again and the cycle of heat removal is repeated.

The conditioned air is distributed through the HVAC module for passenger comfort. The heat and moisture removed from the passenger compartment will also change form, or condense, and is discharged from the HVAC module as water.

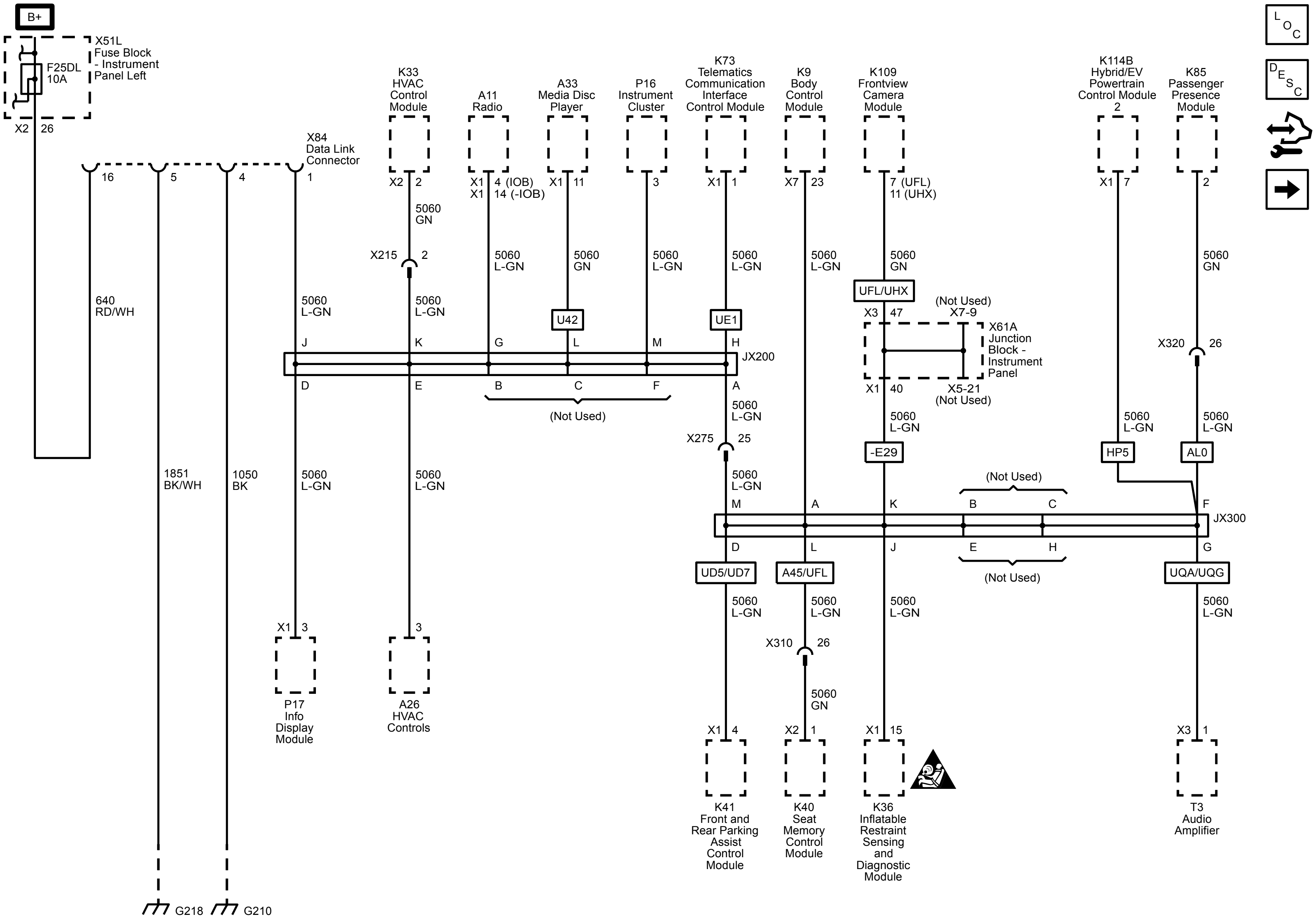
Power and Signal Distribution

Data Communications

Schematic and Routing Diagrams

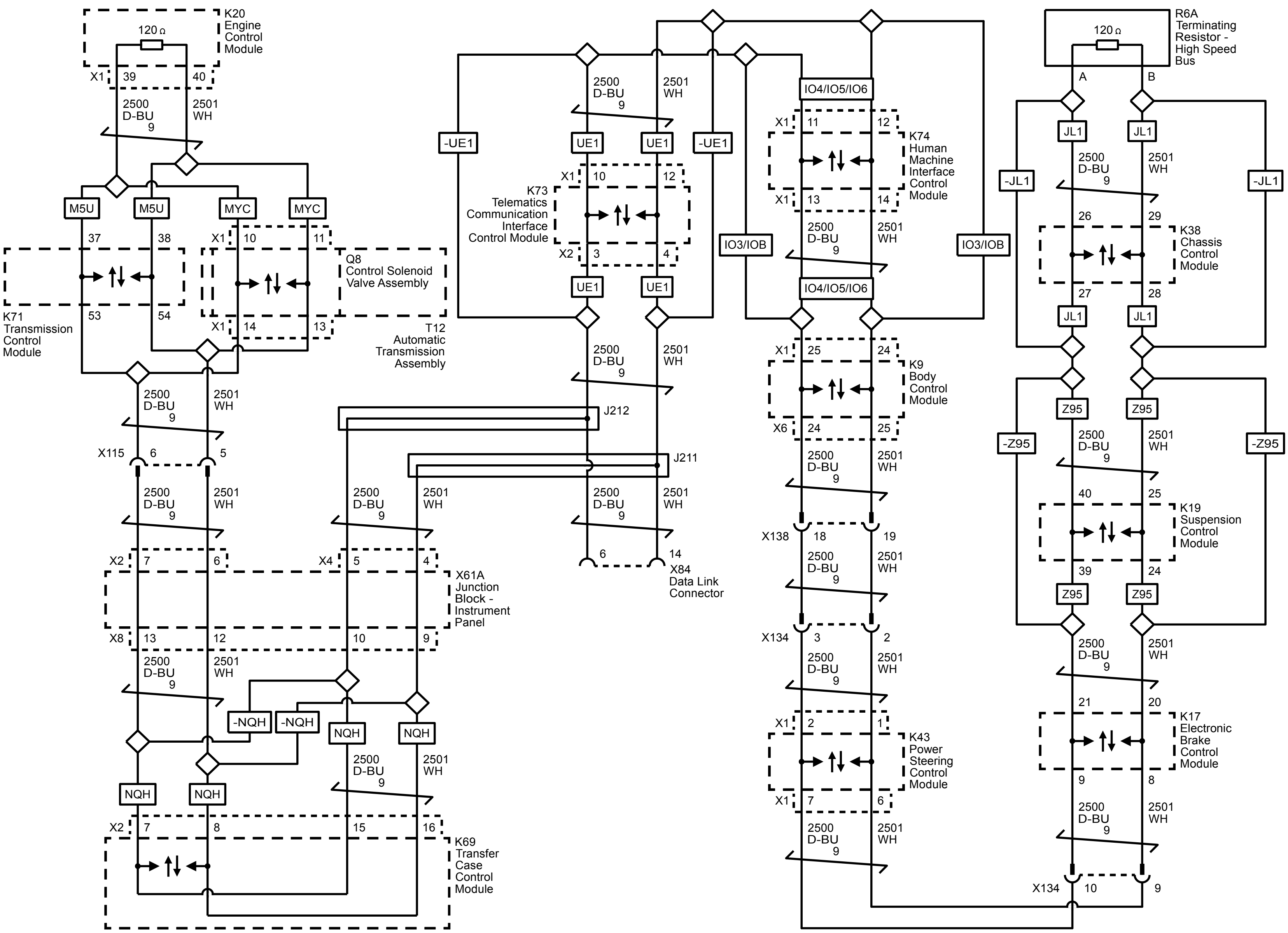
Data Communication Schematics

Data Link Power and Ground, and Low Speed GMLAN

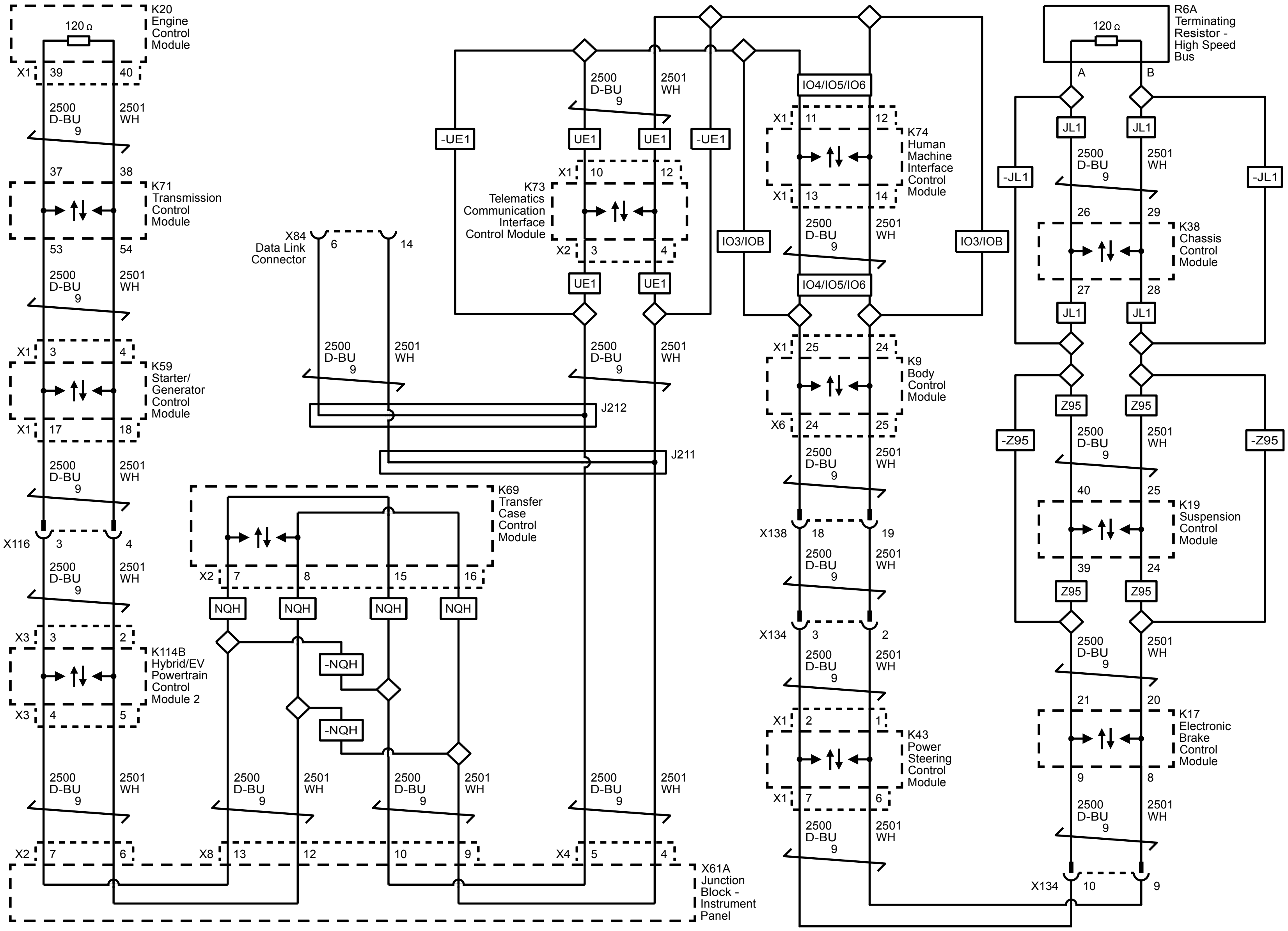


B+
X51L Fuse Block - Instrument Panel Left
F25DL 10A
X2 26
640 RD/WH
X84 Data Link Connector
16
5
4
1
1851 BK/WH
1050 BK
G218
G210
K33 HVAC Control Module
X2 2
5060 GN
X215 2
5060 L-GN
A11 Radio
X1 4 (IOB)
X1 14 (-IOB)
A33 Media Disc Player
X1 11
U42
P16 Instrument Cluster
3
K73 Telematics Communication Interface Control Module
X1 1
UE1
K9 Body Control Module
X7 23
K109 Frontview Camera Module
7 (UFL)
11 (UHX)
5060 GN
UFL/UHX
X3 47
(Not Used) X7-9
X61A Junction Block - Instrument Panel
X1 40
X5-21 (Not Used)
-E29
K114B Hybrid/EV Powertrain Control Module 2
X1 7
HP5
K85 Passenger Presence Module
2
X320 26
AL0
J K G L M H
JX200
D E B C F A
(Not Used)
X275 25
M A K B C F
JX300
D L J E H G
(Not Used)
UD5/UD7
A45/UFL
UQA/UQG
X310 26
5060 GN
P17 Info Display Module
X1 3
A26 HVAC Controls
3
K41 Front and Rear Parking Assist Control Module
X1 4
K40 Seat Memory Control Module
X2 1
K36 Inflatable Restraint Sensing and Diagnostic Module
X1 15
T3 Audio Amplifier
X3 1
L O C
D E S C

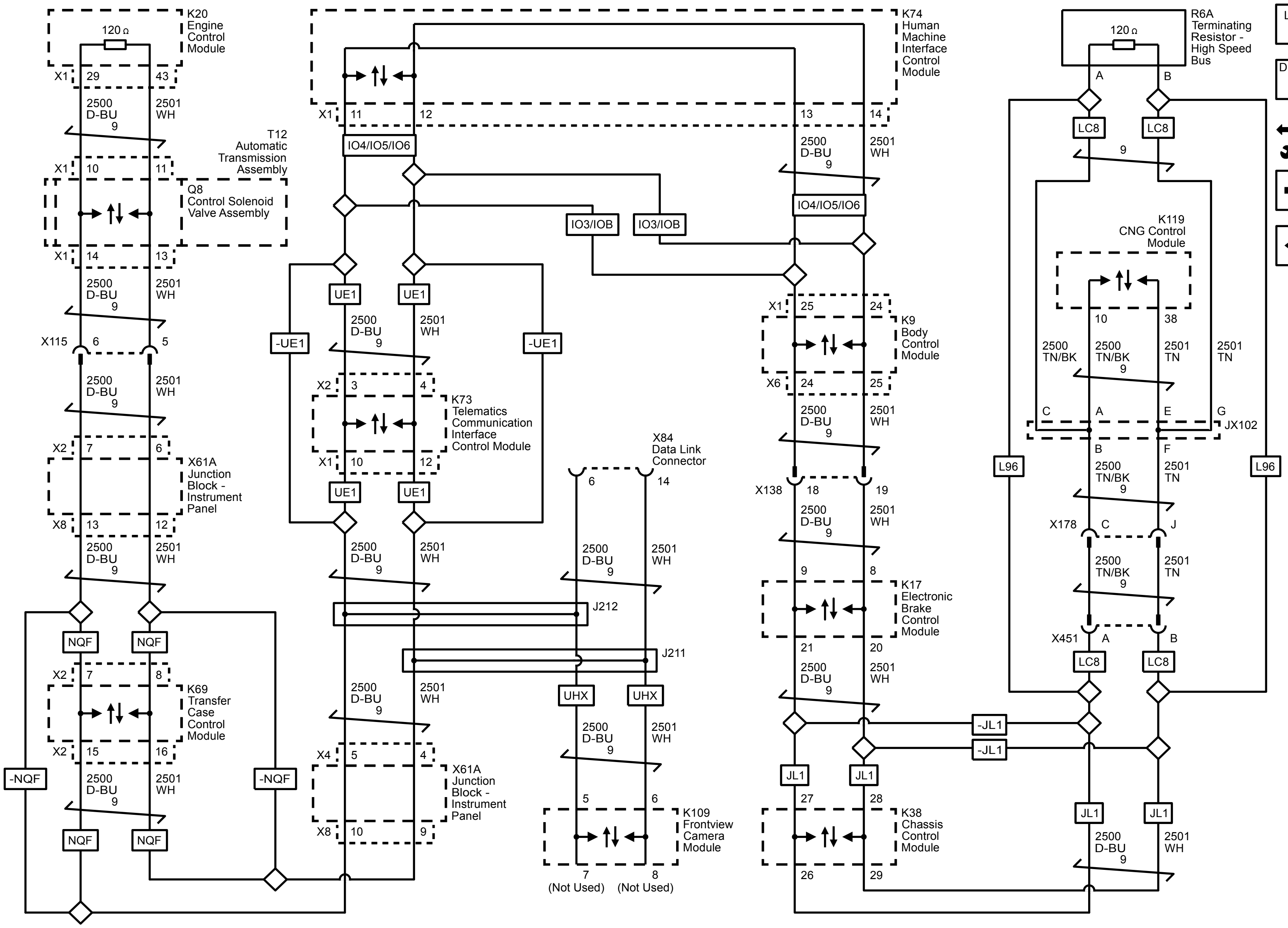
High Speed GMLAN (1500 except E29 and HP5)


K20 Engine Control Module
120 Ω
X1 39 40
2500 D-BU 9
2501 WH
M5U
M5U
MYC
MYC
37 38
K71 Transmission Control Module
53 54
X1 10 11
Q8 Control Solenoid Valve Assembly
X1 14 13
T12 Automatic Transmission Assembly
X115 6 5
X2 7 6
X4 5 4
X61A Junction Block - Instrument Panel
X8 13 12 10 9
-NQH
-NQH
NQH
NQH
NQH
NQH
X2 7 8 15 16
K69 Transfer Case Control Module
-UE1
UE1
UE1
-UE1
K73 Telematics Communication Interface Control Module
X1 10 12
X2 3 4
J212
J211
6 14
X84 Data Link Connector
IO4/IO5/IO6
X1 11 12
K74 Human Machine Interface Control Module
X1 13 14
IO3/IOB
IO3/IOB
IO4/IO5/IO6
X1 25 24
K9 Body Control Module
X6 24 25
X138 18 19
X134 3 2
X1 2 1
K43 Power Steering Control Module
X1 7 6
R6A Terminating Resistor - High Speed Bus
120 Ω
A B
JL1
JL1
-JL1
-JL1
26 29
K38 Chassis Control Module
27 28
Z95
Z95
-Z95
-Z95
40 25
K19 Suspension Control Module
39 24
Z95
Z95
21 20
K17 Electronic Brake Control Module
9 8
X134 10 9

High Speed GMLAN (1500 with HP5)

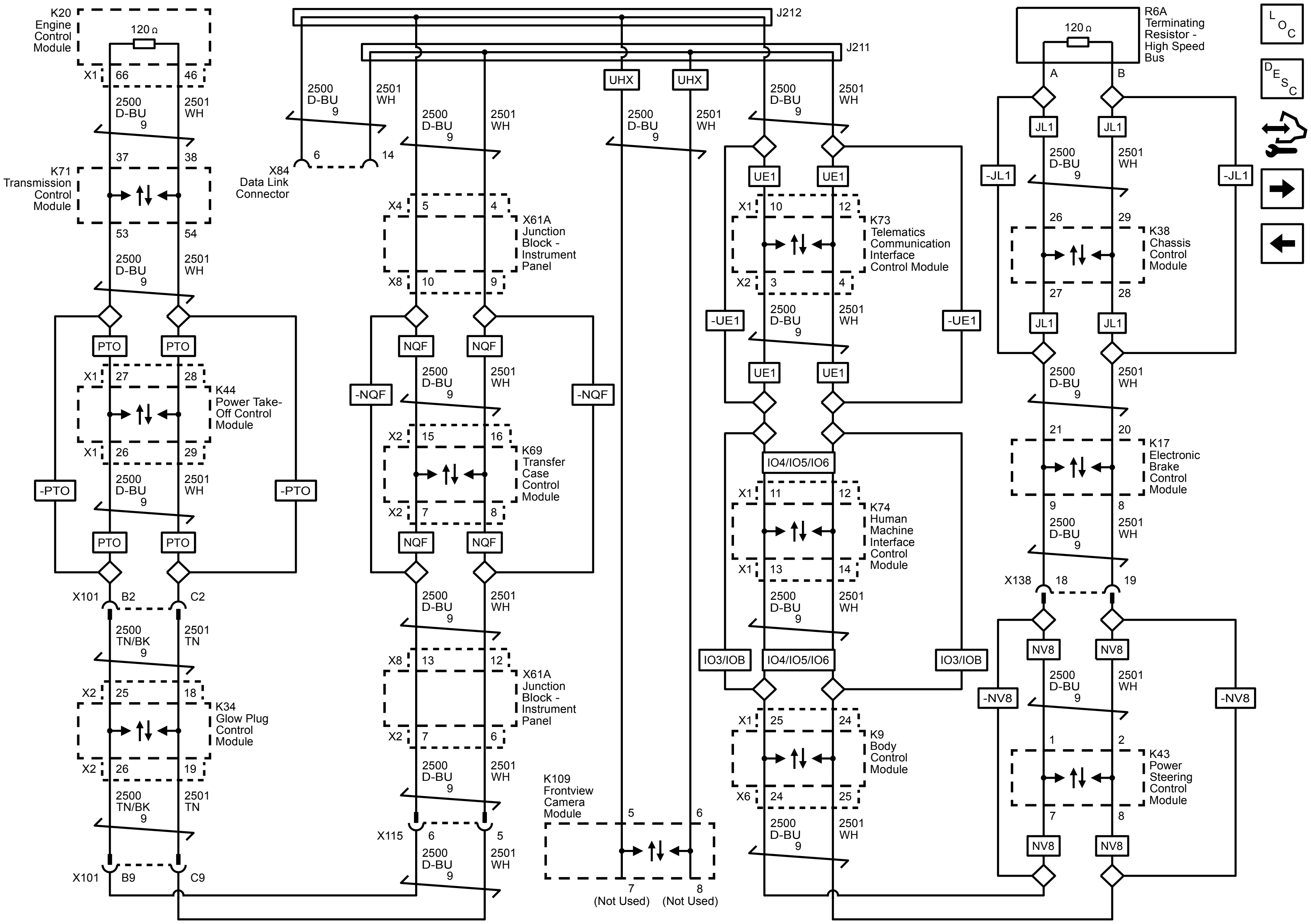

K20 Engine Control Module
120 Ω
X1 39 40
2500 D-BU 9
2501 WH
37 38
K71 Transmission Control Module
53 54
X1 3 4
K59 Starter/ Generator Control Module
X1 17 18
X116 3 4
X3 3 2
K114B Hybrid/EV Powertrain Control Module 2
X3 4 5
X2 7 6
X84 Data Link Connector
6 14
J212
J211
K69 Transfer Case Control Module
X2 7 8 15 16
NQH
-NQH
X8 13 12 10 9
-UE1
UE1
K73 Telematics Communication Interface Control Module
X1 10 12
X2 3 4
X4 5 4
X61A Junction Block - Instrument Panel
IO4/IO5/IO6
IO3/IOB
K74 Human Machine Interface Control Module
X1 11 12
X1 13 14
K9 Body Control Module
X1 25 24
X6 24 25
X138 18 19
X134 3 2
K43 Power Steering Control Module
X1 2 1
X1 7 6
R6A Terminating Resistor - High Speed Bus
120 Ω
A B
JL1
-JL1
K38 Chassis Control Module
26 29
27 28
Z95
-Z95
K19 Suspension Control Module
40 25
39 24
K17 Electronic Brake Control Module
21 20
9 8
X134 10 9

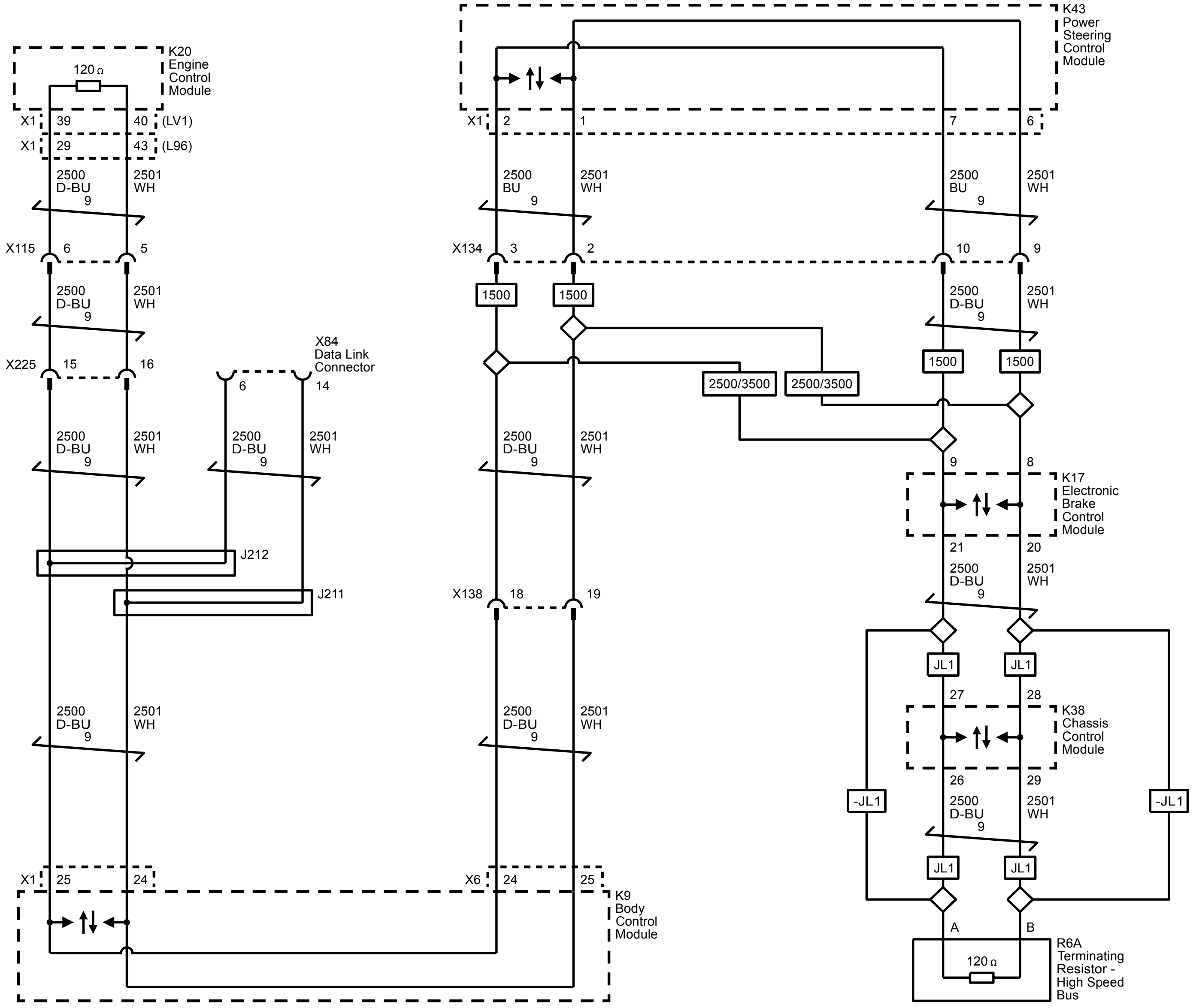
High Speed GMLAN (2500/3500 except E29 or LML)


K20
Engine
Control
Module
120 Ω
X1
29
43
2500
D-BU
9
2501
WH
T12
Automatic
Transmission
Assembly
X1
10
11
Q8
Control Solenoid
Valve Assembly
X1
14
13
2500
D-BU
9
2501
WH
X115
6
5
2500
D-BU
9
2501
WH
X2
7
6
X61A
Junction
Block -
Instrument
Panel
X8
13
12
2500
D-BU
9
2501
WH
NQF
NQF
X2
7
8
K69
Transfer
Case
Control
Module
X2
15
16
2500
D-BU
9
2501
WH
-NQF
-NQF
NQF
NQF
K74
Human
Machine
Interface
Control
Module
X1
11
12
13
14
IO4/IO5/IO6
2500
D-BU
9
2501
WH
IO4/IO5/IO6
IO3/IOB
IO3/IOB
UE1
UE1
-UE1
-UE1
2500
D-BU
9
2501
WH
X2
3
4
K73
Telematics
Communication
Interface
Control Module
X1
10
12
UE1
UE1
2500
D-BU
9
2501
WH
J212
J211
2500
D-BU
9
2501
WH
X4
5
4
X61A
Junction
Block -
Instrument
Panel
X8
10
9
X84
Data Link
Connector
6
14
2500
D-BU
9
2501
WH
UHX
UHX
2500
D-BU
9
2501
WH
5
6
K109
Frontview
Camera
Module
7
8
(Not Used)
(Not Used)
X1
25
24
K9
Body
Control
Module
X6
24
25
2500
D-BU
9
2501
WH
X138
18
19
2500
D-BU
9
2501
WH
9
8
K17
Electronic
Brake
Control
Module
21
20
2500
D-BU
9
2501
WH
-JL1
-JL1
JL1
JL1
27
28
K38
Chassis
Control
Module
26
29
R6A
Terminating
Resistor -
High Speed
Bus
120 Ω
A
B
LC8
LC8
9
K119
CNG Control
Module
10
38
2500
TN/BK
2500
TN/BK
9
2501
TN
2501
TN
C
A
E
G
JX102
B
F
L96
L96
2500
TN/BK
9
2501
TN
X178
C
J
2500
TN/BK
9
2501
TN
X451
A
B
LC8
LC8
JL1
JL1
2500
D-BU
9
2501
WH

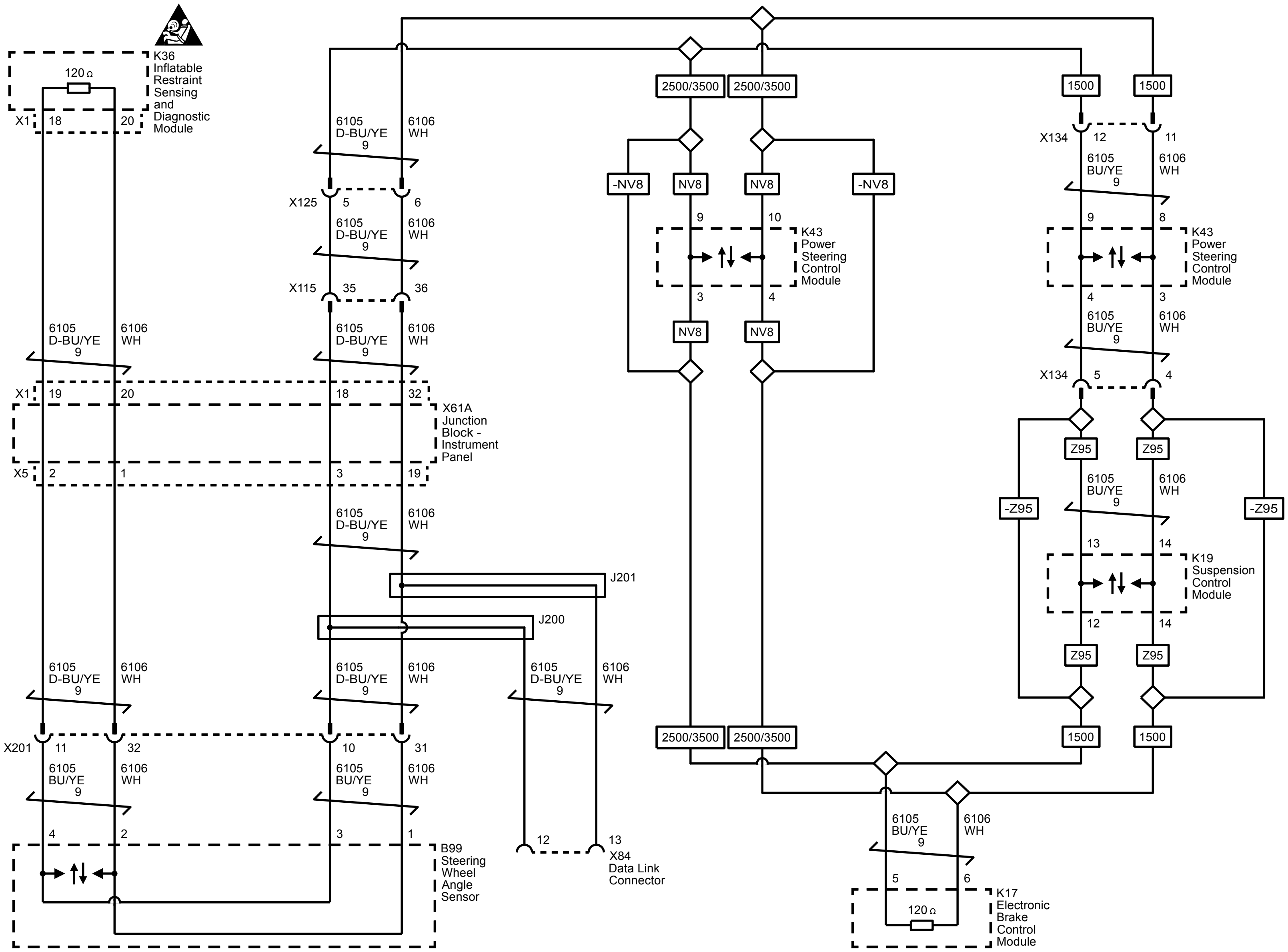
LOC
DESC

High Speed GMLAN (LML)

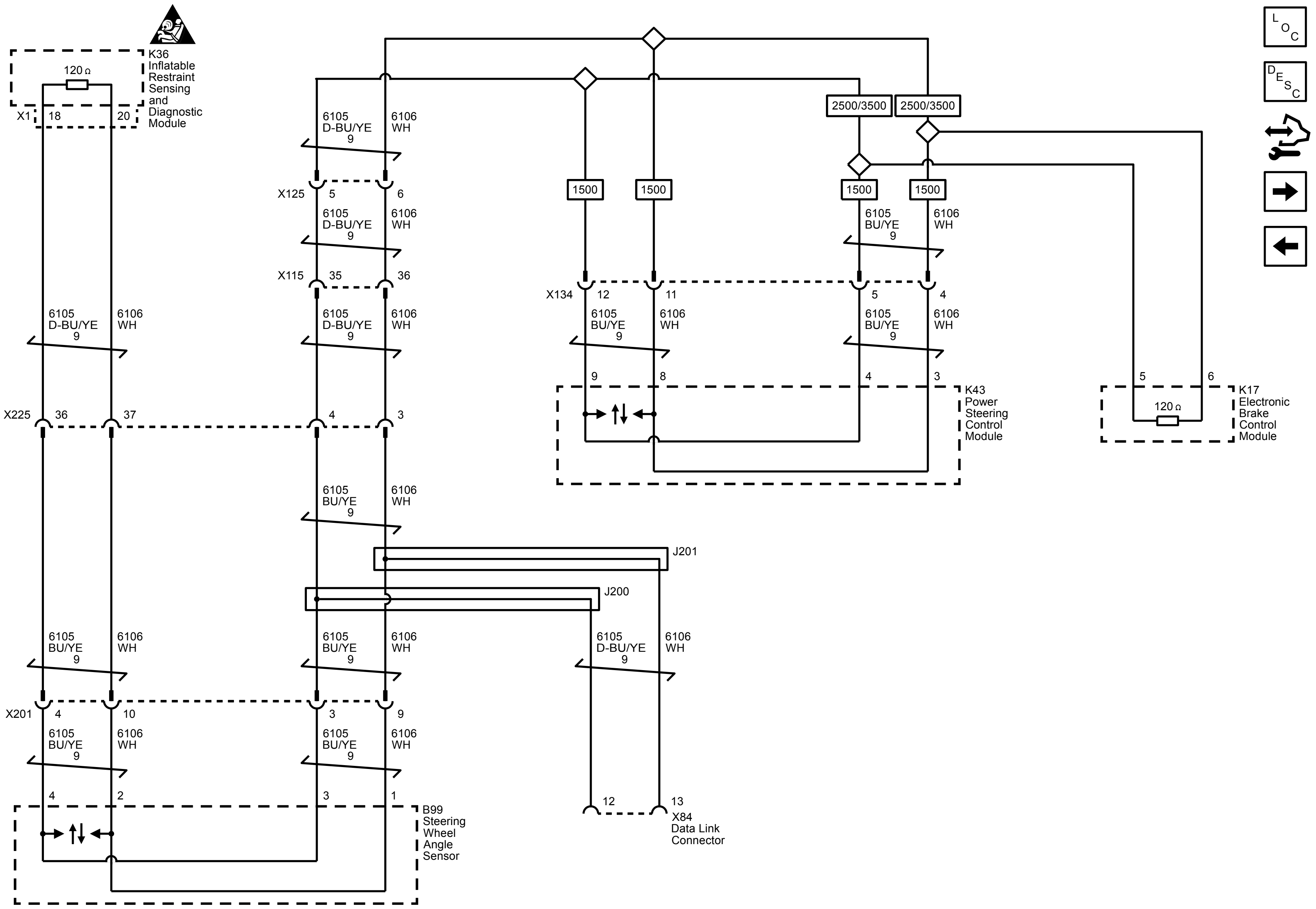

K20 Engine Control Module
120 Ω
X1 66 46
2500 D-BU 9
2501 WH
37 38
K71 Transmission Control Module
53 54
PTO
-PTO
X1 27 28
K44 Power Take-Off Control Module
X1 26 29
X101 B2 C2
2500 TN/BK 9
2501 TN
X2 25 18
K34 Glow Plug Control Module
X2 26 19
X101 B9 C9
J212
J211
X84 Data Link Connector
6 14
X4 5 4
X61A Junction Block - Instrument Panel
X8 10 9
NQF
-NQF
X2 15 16
K69 Transfer Case Control Module
X2 7 8
X8 13 12
X2 7 6
X115 6 5
UHX
K109 Frontview Camera Module
5 6
7 (Not Used)
8 (Not Used)
UE1
-UE1
X1 10 12
K73 Telematics Communication Interface Control Module
X2 3 4
IO4/IO5/IO6
IO3/IOB
X1 11 12
K74 Human Machine Interface Control Module
X1 13 14
X1 25 24
K9 Body Control Module
X6 24 25
R6A Terminating Resistor - High Speed Bus
A B
JL1
-JL1
26 29
K38 Chassis Control Module
27 28
21 20
K17 Electronic Brake Control Module
9 8
X138 18 19
NV8
-NV8
1 2
K43 Power Steering Control Module
7 8
LOC
DESC


K20 Engine Control Module
120 Ω
X1 39 40 (LV1)
X1 29 43 (L96)
2500 D-BU 9
2501 WH
X115 6 5
X225 15 16
X84 Data Link Connector
6 14
J212
J211
K43 Power Steering Control Module
X1 2 1 7 6
2500 BU 9
2501 WH
X134 3 2 10 9
1500
2500/3500
K17 Electronic Brake Control Module
9 8
21 20
X138 18 19
JL1
-JL1
K38 Chassis Control Module
27 28
26 29
X1 25 24
X6 24 25
K9 Body Control Module
A B
R6A Terminating Resistor - High Speed Bus

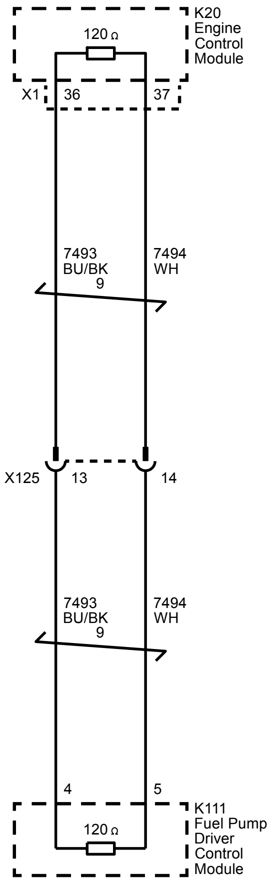
Chassis Expansion Bus (except E29)

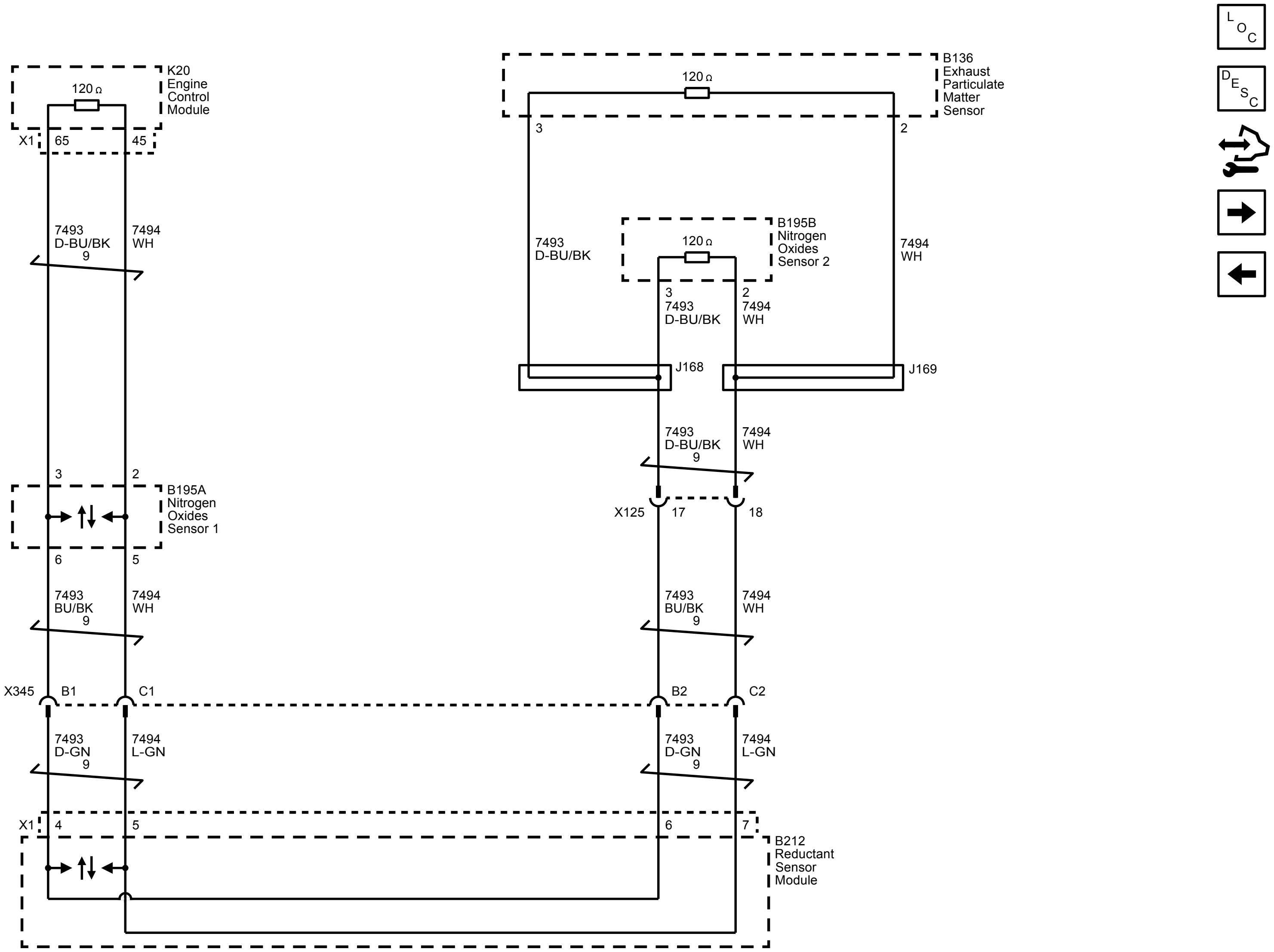

K36 Inflatable Restraint Sensing and Diagnostic Module
120 Ω
X1
18
20
6105 D-BU/YE 9
6106 WH
X125
5
6
X115
35
36
19
X61A Junction Block - Instrument Panel
X5
2
1
3
J201
J200
X201
11
32
10
31
6105 BU/YE 9
4
B99 Steering Wheel Angle Sensor
12
13
X84 Data Link Connector
2500/3500
-NV8
NV8
K43 Power Steering Control Module
1500
X134
K19 Suspension Control Module
Z95
-Z95
14
K17 Electronic Brake Control Module

Chassis Expansion Bus (E29)


K36
Inflatable Restraint Sensing and Diagnostic Module
120 Ω
X1
18
20
6105 D-BU/YE 9
6106 WH
X125
5
6
X115
35
36
X225
36
37
4
3
6105 BU/YE 9
J201
J200
X201
4
10
3
9
B99
Steering Wheel Angle Sensor
2
1
12
13
X84
Data Link Connector
1500
2500/3500
X134
12
11
5
4
K43
Power Steering Control Module
9
8
K17
Electronic Brake Control Module
6

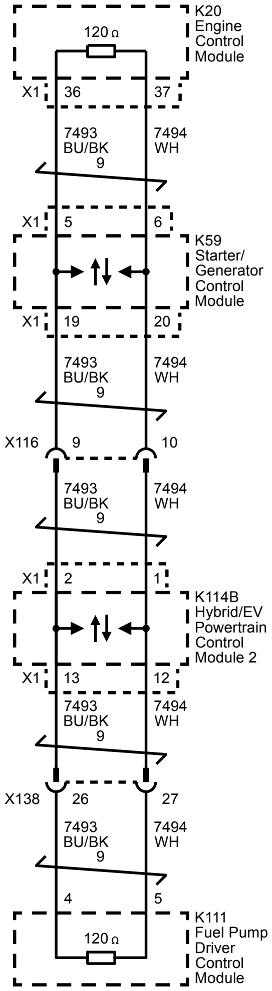
Powertrain Expansion Bus (1500)

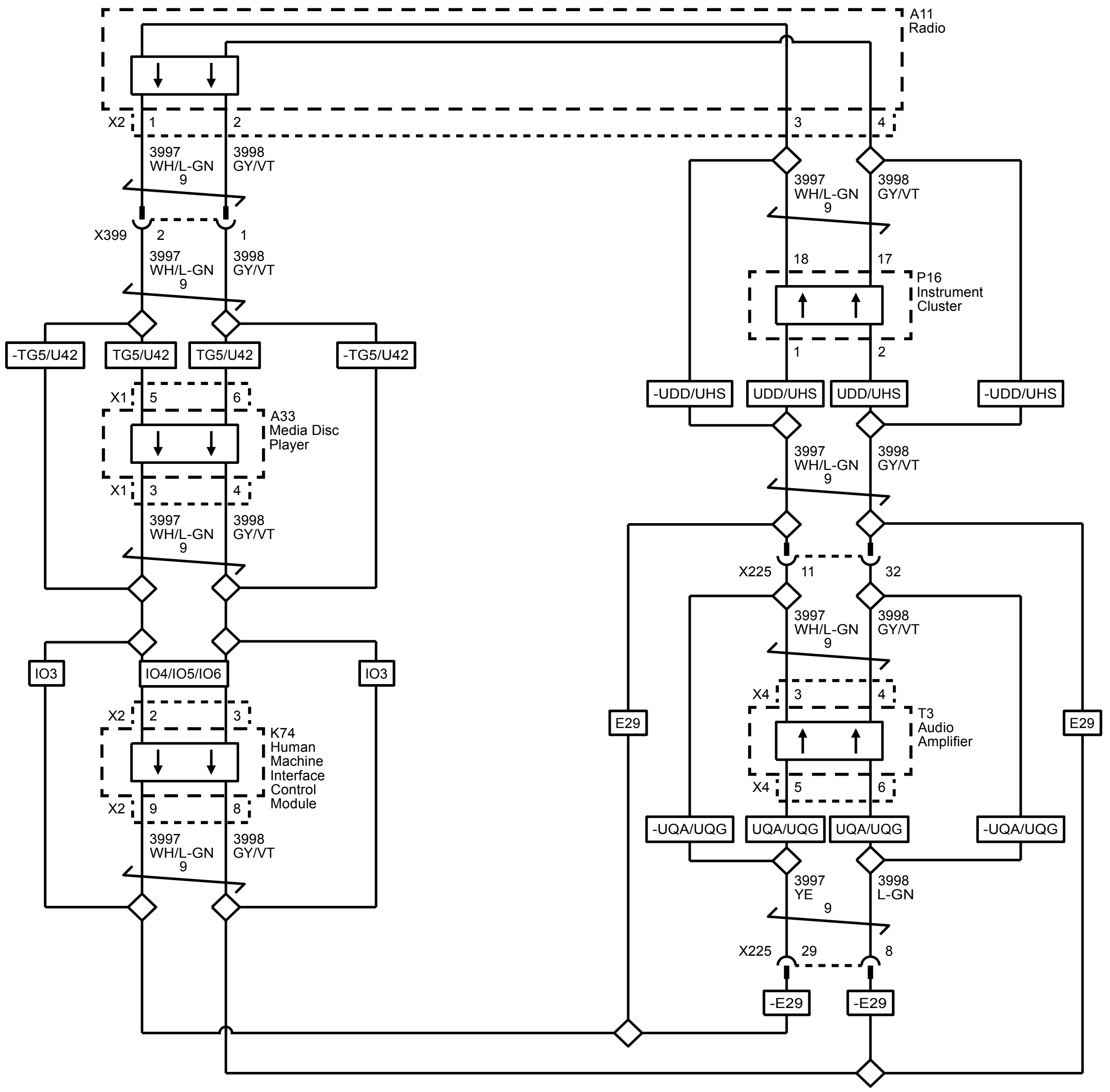

K20
Engine
Control
Module
120 Ω
X1
36
37
7493
BU/BK
9
7494
WH
X125
13
14
7493
BU/BK
9
7494
WH
4
5
K111
Fuel Pump
Driver
Control
Module
120 Ω



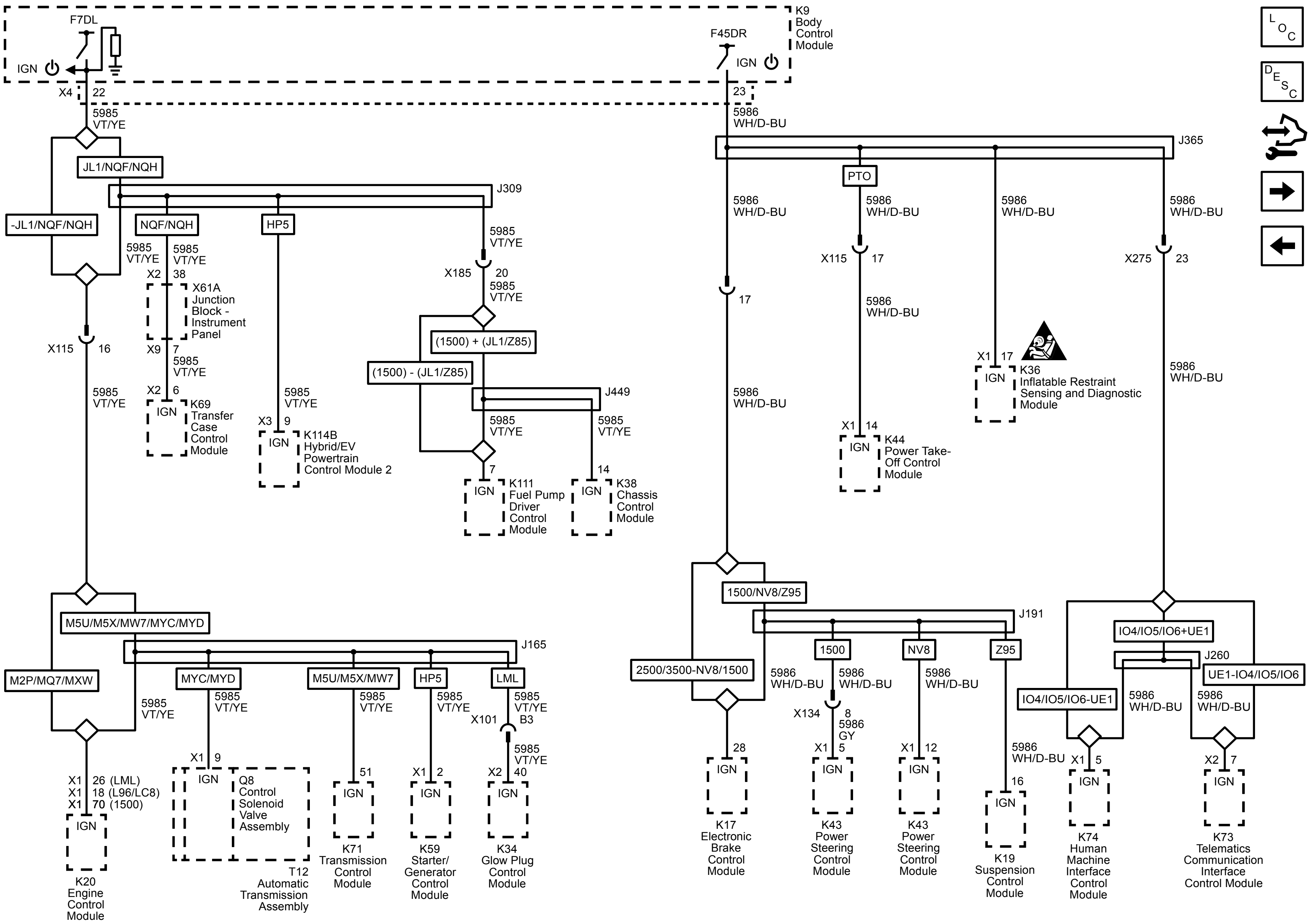
L O C
D E S C
K20
Engine
Control
Module
120 Ω
X1
65
45
7493
D-BU/BK
9
7494
WH
3
2
B195A
Nitrogen
Oxides
Sensor 1
6
5
7493
BU/BK
9
7494
WH
X345
B1
C1
7493
D-GN
9
7494
L-GN
X1
4
5
6
7
B212
Reductant
Sensor
Module
B136
Exhaust
Particulate
Matter
Sensor
120 Ω
3
2
7493
D-BU/BK
7494
WH
B195B
Nitrogen
Oxides
Sensor 2
120 Ω
3
7493
D-BU/BK
2
7494
WH
J168
J169
7493
D-BU/BK
9
7494
WH
X125
17
18
7493
BU/BK
9
7494
WH
B2
C2
7493
D-GN
9
7494
L-GN

Powertrain Expansion Bus (HP5)

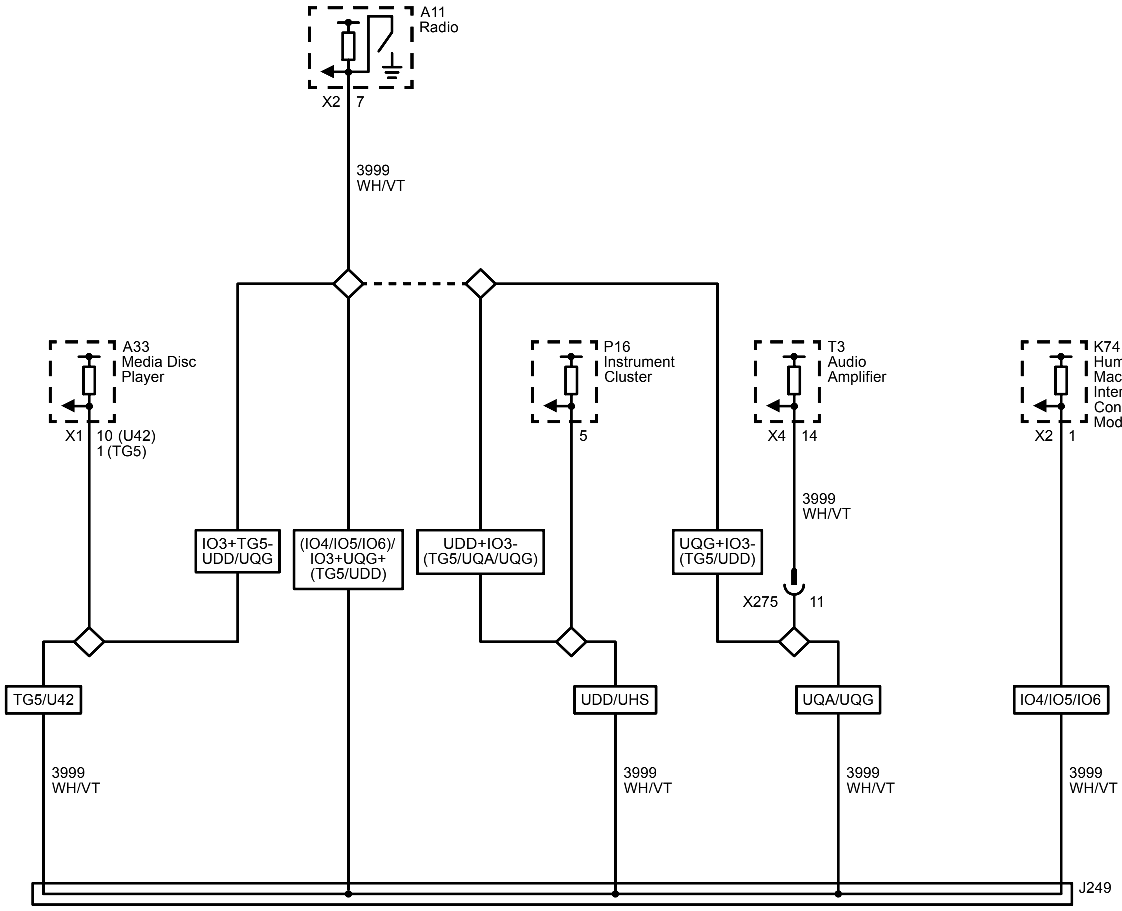

K20
Engine
Control
Module
120 Ω
X1
36
37
7493
BU/BK
9
7494
WH
X1
5
6
K59
Starter/
Generator
Control
Module
X1
19
20
7493
BU/BK
9
7494
WH
X116
9
10
7493
BU/BK
9
7494
WH
X1
2
1
K114B
Hybrid/EV
Powertrain
Control
Module 2
X1
13
12
7493
BU/BK
9
7494
WH
X138
26
27
7493
BU/BK
9
7494
WH
4
5
K111
Fuel Pump
Driver
Control
Module
120 Ω


A11
Radio
X2
1
2
3
4
3997
WH/L-GN
9
3998
GY/VT
X399
2
1
3997
WH/L-GN
9
3998
GY/VT
-TG5/U42
TG5/U42
TG5/U42
-TG5/U42
X1
5
6
A33
Media Disc
Player
X1
3
4
3997
WH/L-GN
9
3998
GY/VT
IO3
IO4/IO5/IO6
IO3
X2
2
3
K74
Human
Machine
Interface
Control
Module
X2
9
8
3997
WH/L-GN
9
3998
GY/VT
3997
WH/L-GN
9
3998
GY/VT
18
17
P16
Instrument
Cluster
1
2
-UDD/UHS
UDD/UHS
UDD/UHS
-UDD/UHS
3997
WH/L-GN
9
3998
GY/VT
X225
11
32
3997
WH/L-GN
9
3998
GY/VT
E29
E29
X4
3
4
T3
Audio
Amplifier
X4
5
6
-UQA/UQG
UQA/UQG
UQA/UQG
-UQA/UQG
3997
YE
9
3998
L-GN
X225
29
8
-E29
-E29

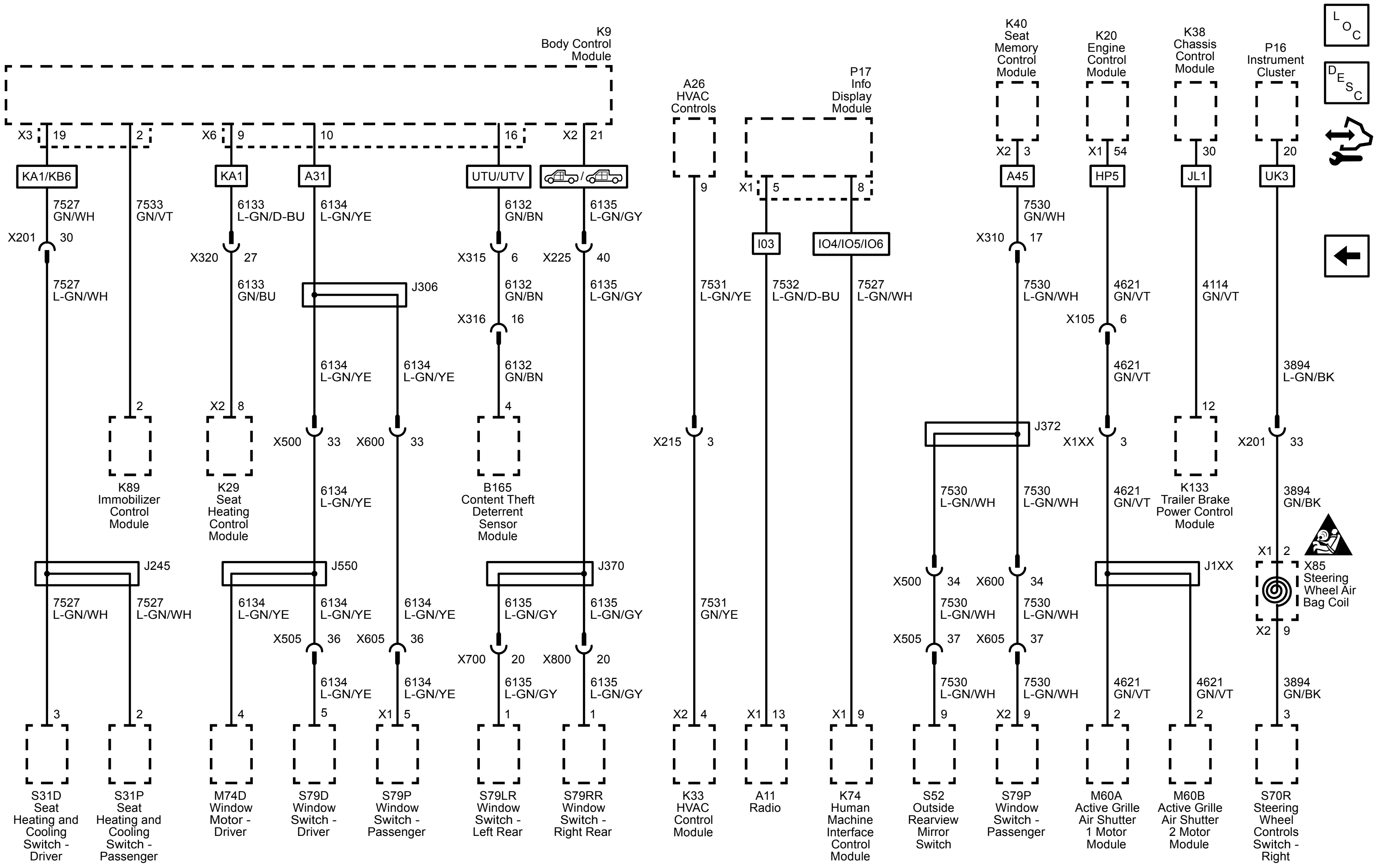
Accessory Wakeup and Communications Enable


K9
Body
Control
Module
F7DL
IGN
F45DR
IGN
X4
22
23
5985
VT/YE
5986
WH/D-BU
J365
JL1/NQF/NQH
J309
-JL1/NQF/NQH
NQF/NQH
HP5
5985
VT/YE
5985
VT/YE
X2
38
X61A
Junction
Block -
Instrument
Panel
X9
7
5985
VT/YE
X2
6
IGN
K69
Transfer
Case
Control
Module
5985
VT/YE
X3
9
IGN
K114B
Hybrid/EV
Powertrain
Control Module 2
5985
VT/YE
X185
20
5985
VT/YE
(1500) + (JL1/Z85)
(1500) - (JL1/Z85)
J449
5985
VT/YE
5985
VT/YE
7
14
IGN
K111
Fuel Pump
Driver
Control
Module
IGN
K38
Chassis
Control
Module
X115
16
5985
VT/YE
M5U/M5X/MW7/MYC/MYD
J165
M2P/MQ7/MXW
MYC/MYD
M5U/M5X/MW7
HP5
LML
5985
VT/YE
5985
VT/YE
5985
VT/YE
5985
VT/YE
5985
VT/YE
B3
X101
5985
VT/YE
X1
9
IGN
Q8
Control
Solenoid
Valve
Assembly
T12
Automatic
Transmission
Assembly
51
IGN
K71
Transmission
Control
Module
X1
2
IGN
K59
Starter/
Generator
Control
Module
X2
40
IGN
K34
Glow Plug
Control
Module
X1
26 (LML)
X1
18 (L96/LC8)
X1
70 (1500)
IGN
K20
Engine
Control
Module
PTO
5986
WH/D-BU
5986
WH/D-BU
5986
WH/D-BU
5986
WH/D-BU
X115
17
X275
23
17
5986
WH/D-BU
5986
WH/D-BU
X1
17
IGN
K36
Inflatable Restraint
Sensing and Diagnostic
Module
5986
WH/D-BU
5986
WH/D-BU
X1
14
IGN
K44
Power Take-
Off Control
Module
1500/NV8/Z95
J191
2500/3500-NV8/1500
1500
NV8
Z95
5986
WH/D-BU
5986
WH/D-BU
5986
WH/D-BU
X134
8
5986
GY
X1
5
X1
12
28
IGN
K17
Electronic
Brake
Control
Module
IGN
K43
Power
Steering
Control
Module
IGN
K43
Power
Steering
Control
Module
5986
WH/D-BU
16
IGN
K19
Suspension
Control
Module
IO4/IO5/IO6+UE1
J260
UE1-IO4/IO5/IO6
IO4/IO5/IO6-UE1
5986
WH/D-BU
5986
WH/D-BU
X1
5
X2
7
IGN
K74
Human
Machine
Interface
Control
Module
IGN
K73
Telematics
Communication
Interface
Control Module
LOC
DESC

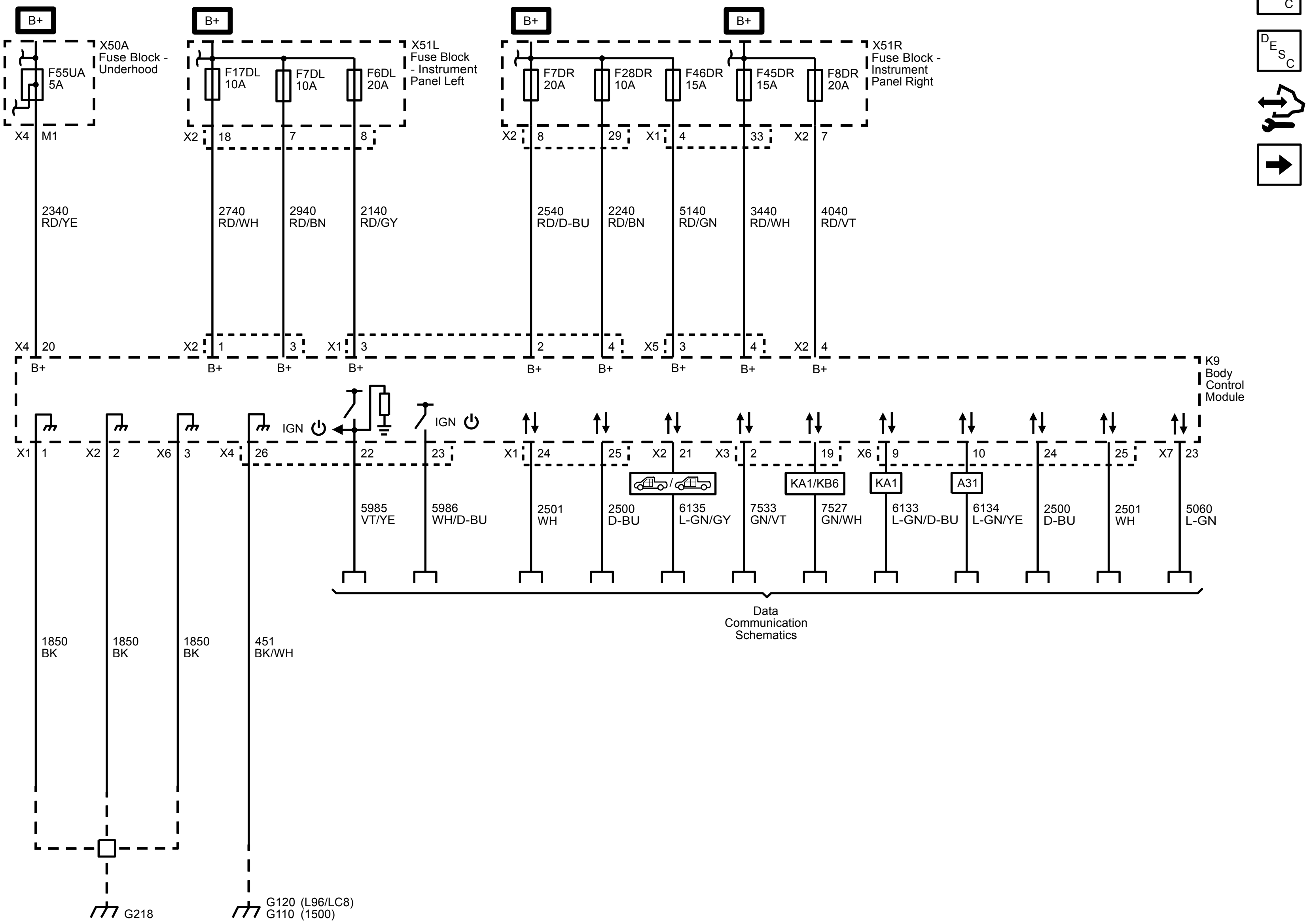
MOST Communication Enable


A11
Radio
X2
7
3999
WH/VT
A33
Media Disc
Player
X1
10 (U42)
1 (TG5)
IO3+TG5-
UDD/UQG
(IO4/IO5/IO6)/
IO3+UQG+
(TG5/UDD)
UDD+IO3-
(TG5/UQA/UQG)
P16
Instrument
Cluster
5
UQG+IO3-
(TG5/UDD)
T3
Audio
Amplifier
X4
14
3999
WH/VT
X275
11
K74
Human
Machine
Interface
Control
Module
X2
1
TG5/U42
UDD/UHS
UQA/UQG
IO4/IO5/IO6
3999
WH/VT
3999
WH/VT
3999
WH/VT
3999
WH/VT
J249

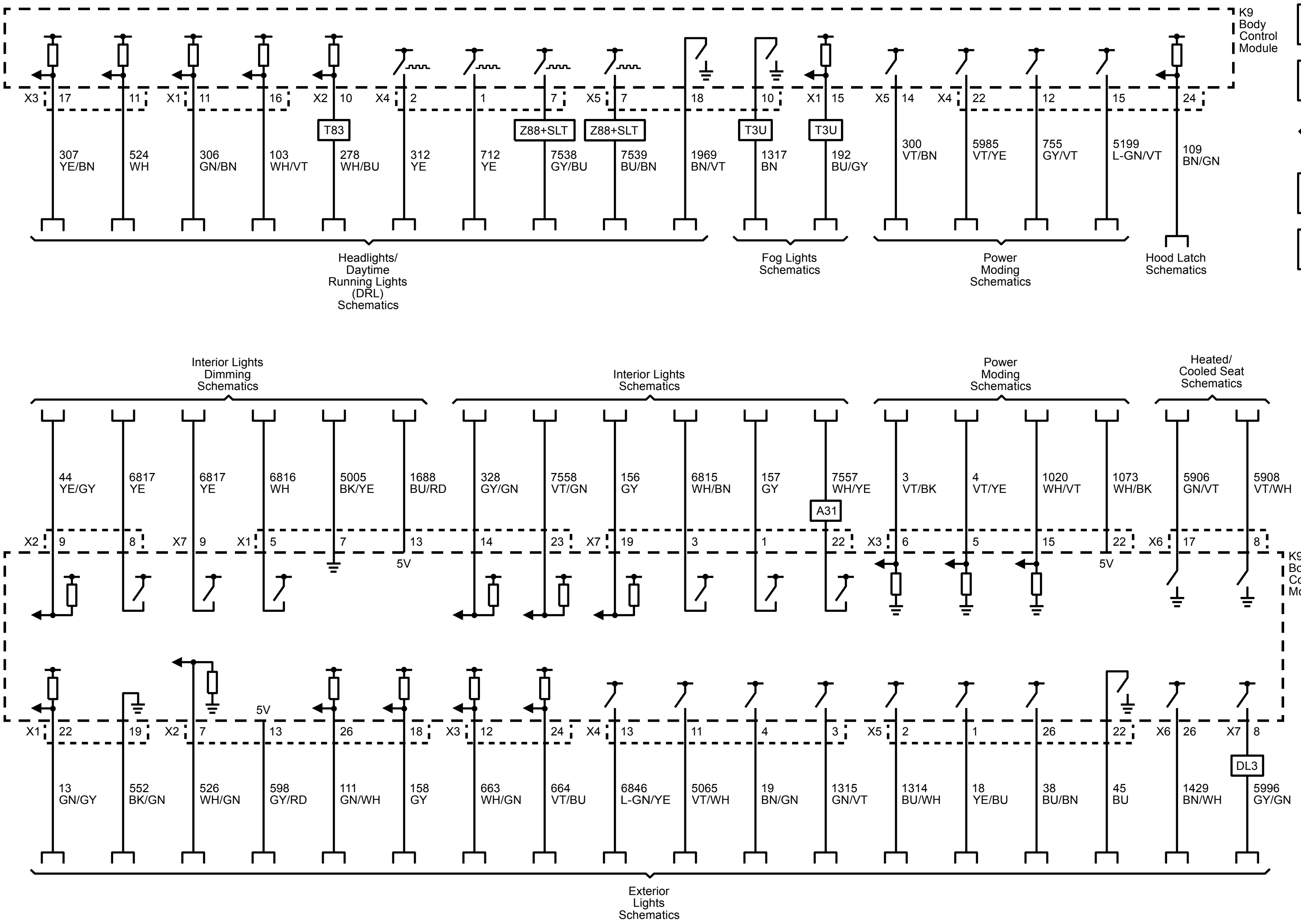
Linear Interconnect Network


K9 Body Control Module
X3 19
2
X6 9
10
16
X2 21
KA1/KB6
KA1
A31
UTU/UTV
7527 GN/WH
7533 GN/VT
6133 L-GN/D-BU
6134 L-GN/YE
6132 GN/BN
6135 L-GN/GY
X201 30
X320 27
X315 6
X225 40
7527 L-GN/WH
6133 GN/BU
J306
6132 GN/BN
6135 L-GN/GY
X316 16
6134 L-GN/YE
6134 L-GN/YE
6132 GN/BN
2
X2 8
4
X500 33
X600 33
K89 Immobilizer Control Module
K29 Seat Heating Control Module
B165 Content Theft Deterrent Sensor Module
6134 L-GN/YE
J245
J550
J370
7527 L-GN/WH
7527 L-GN/WH
6134 L-GN/YE
6134 L-GN/YE
6134 L-GN/YE
6135 L-GN/GY
6135 L-GN/GY
X505 36
X605 36
X700 20
X800 20
6134 L-GN/YE
6134 L-GN/YE
6135 L-GN/GY
6135 L-GN/GY
3
2
4
5
X1 5
1
1
S31D Seat Heating and Cooling Switch - Driver
S31P Seat Heating and Cooling Switch - Passenger
M74D Window Motor - Driver
S79D Window Switch - Driver
S79P Window Switch - Passenger
S79LR Window Switch - Left Rear
S79RR Window Switch - Right Rear
A26 HVAC Controls
9
7531 L-GN/YE
X215 3
7531 GN/YE
X2 4
K33 HVAC Control Module
P17 Info Display Module
X1 5
8
I03
IO4/IO5/IO6
7532 L-GN/D-BU
7527 L-GN/WH
X1 13
X1 9
A11 Radio
K74 Human Machine Interface Control Module
K40 Seat Memory Control Module
K20 Engine Control Module
K38 Chassis Control Module
P16 Instrument Cluster
X2 3
X1 54
30
20
A45
HP5
JL1
UK3
7530 GN/WH
X310 17
7530 L-GN/WH
4621 GN/VT
4114 GN/VT
X105 6
4621 GN/VT
3894 L-GN/BK
12
J372
X1XX 3
X201 33
7530 L-GN/WH
7530 L-GN/WH
4621 GN/VT
K133 Trailer Brake Power Control Module
3894 GN/BK
X1 2
X85 Steering Wheel Air Bag Coil
X2 9
X500 34
X600 34
J1XX
7530 L-GN/WH
7530 L-GN/WH
X505 37
X605 37
7530 L-GN/WH
7530 L-GN/WH
4621 GN/VT
4621 GN/VT
3894 GN/BK
9
X2 9
2
2
3
S52 Outside Rearview Mirror Switch
S79P Window Switch - Passenger
M60A Active Grille Air Shutter 1 Motor Module
M60B Active Grille Air Shutter 2 Motor Module
S70R Steering Wheel Controls Switch - Right
LOC
DESC

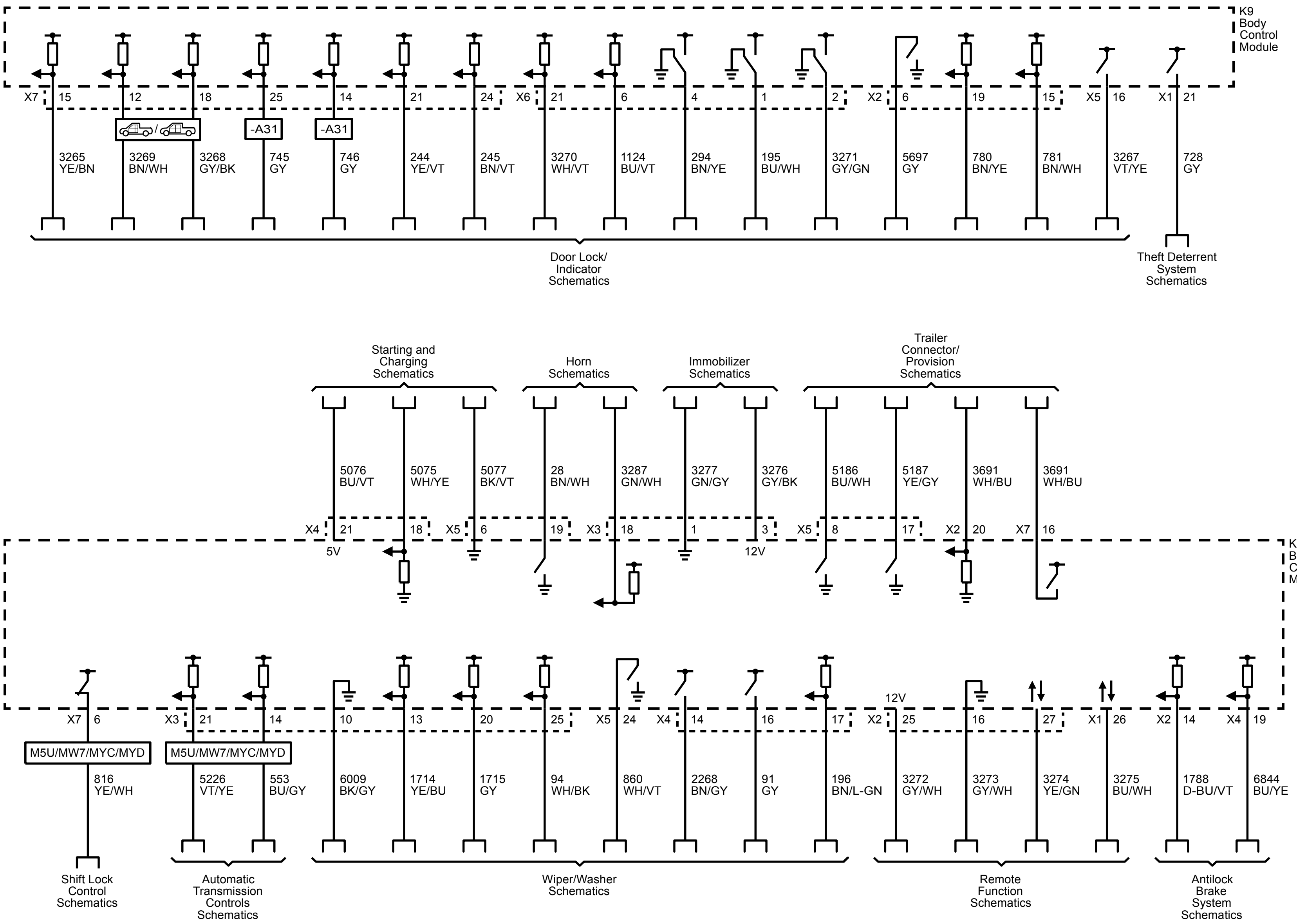
Module Power, Ground and Serial Data


B+
X50A
Fuse Block - Underhood
F55UA
5A
X4 M1
2340
RD/YE
X51L
Fuse Block - Instrument Panel Left
F17DL 10A
F7DL 10A
F6DL 20A
X2 18 7 8
2740 RD/WH
2940 RD/BN
2140 RD/GY
X51R
Fuse Block - Instrument Panel Right
F7DR 20A
F28DR 10A
F46DR 15A
F45DR 15A
F8DR 20A
X2 8 29 X1 4 33 X2 7
2540 RD/D-BU
2240 RD/BN
5140 RD/GN
3440 RD/WH
4040 RD/VT
X4 20
X2 1 3
X1 3
2 4
X5 3 4
X2 4
K9
Body
Control
Module
IGN
IGN
X1 1
X2 2
X6 3
X4 26
22
23
X1 24
25
X2 21
X3 2
19
X6 9
10
24
25
X7 23
KA1/KB6
KA1
A31
5985 VT/YE
5986 WH/D-BU
2501 WH
2500 D-BU
6135 L-GN/GY
7533 GN/VT
7527 GN/WH
6133 L-GN/D-BU
6134 L-GN/YE
2500 D-BU
2501 WH
5060 L-GN
Data Communication Schematics
1850 BK
1850 BK
1850 BK
451 BK/WH
G218
G120 (L96/LC8)
G110 (1500)

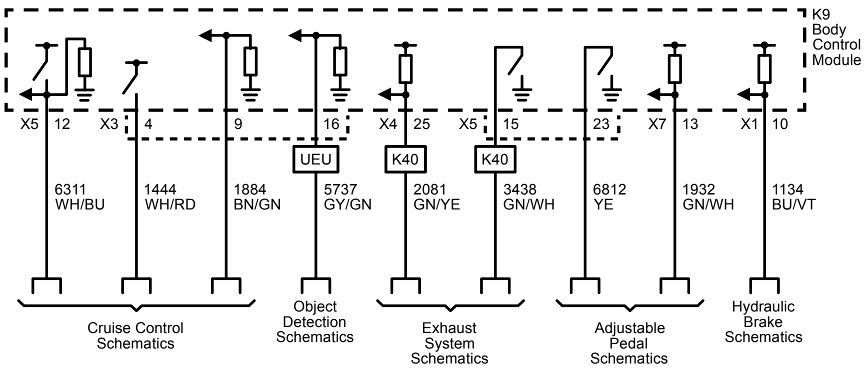
Subsystem References (1 of 3)


K9 Body Control Module
X3 17
11
X1 11
16
X2 10
X4 2
1
7
X5 7
18
10
X1 15
X5 14
X4 22
12
15
24
T83
Z88+SLT
Z88+SLT
T3U
T3U
307 YE/BN
524 WH
306 GN/BN
103 WH/VT
278 WH/BU
312 YE
712 YE
7538 GY/BU
7539 BU/BN
1969 BN/VT
1317 BN
192 BU/GY
300 VT/BN
5985 VT/YE
755 GY/VT
5199 L-GN/VT
109 BN/GN
Headlights/ Daytime Running Lights (DRL) Schematics
Fog Lights Schematics
Power Moding Schematics
Hood Latch Schematics
Interior Lights Dimming Schematics
Interior Lights Schematics
Power Moding Schematics
Heated/ Cooled Seat Schematics
44 YE/GY
6817 YE
6817 YE
6816 WH
5005 BK/YE
1688 BU/RD
328 GY/GN
7558 VT/GN
156 GY
6815 WH/BN
157 GY
7557 WH/YE
A31
3 VT/BK
4 VT/YE
1020 WH/VT
1073 WH/BK
5906 GN/VT
5908 VT/WH
X2 9
8
X7 9
X1 5
7
13
5V
14
23
X7 19
3
1
22
X3 6
5
15
22
5V
X6 17
8
K9 Body Control Module
X1 22
19
X2 7
5V
13
26
18
X3 12
24
X4 13
11
4
3
X5 2
1
26
22
X6 26
X7 8
DL3
13 GN/GY
552 BK/GN
526 WH/GN
598 GY/RD
111 GN/WH
158 GY
663 WH/GN
664 VT/BU
6846 L-GN/YE
5065 VT/WH
19 BN/GN
1315 GN/VT
1314 BU/WH
18 YE/BU
38 BU/BN
45 BU
1429 BN/WH
5996 GY/GN
Exterior Lights Schematics

Subsystem References (2 of 3)


K9 Body Control Module
X7 15
12
18
25
14
21
24
X6 21
6
4
1
2
X2 6
19
15
X5 16
X1 21
-A31
-A31
3265 YE/BN
3269 BN/WH
3268 GY/BK
745 GY
746 GY
244 YE/VT
245 BN/VT
3270 WH/VT
1124 BU/VT
294 BN/YE
195 BU/WH
3271 GY/GN
5697 GY
780 BN/YE
781 BN/WH
3267 VT/YE
728 GY
Door Lock/ Indicator Schematics
Theft Deterrent System Schematics
Starting and Charging Schematics
Horn Schematics
Immobilizer Schematics
Trailer Connector/ Provision Schematics
5076 BU/VT
5075 WH/YE
5077 BK/VT
28 BN/WH
3287 GN/WH
3277 GN/GY
3276 GY/BK
5186 BU/WH
5187 YE/GY
3691 WH/BU
3691 WH/BU
X4 21
18
X5 6
19
X3 18
1
3
X5 8
17
X2 20
X7 16
5V
12V
K9 Body Control Module
X7 6
X3 21
14
10
13
20
25
X5 24
X4 14
16
17
12V
X2 25
16
27
X1 26
X2 14
X4 19
M5U/MW7/MYC/MYD
M5U/MW7/MYC/MYD
816 YE/WH
5226 VT/YE
553 BU/GY
6009 BK/GY
1714 YE/BU
1715 GY
94 WH/BK
860 WH/VT
2268 BN/GY
91 GY
196 BN/L-GN
3272 GY/WH
3273 GY/WH
3274 YE/GN
3275 BU/WH
1788 D-BU/VT
6844 BU/YE
Shift Lock Control Schematics
Automatic Transmission Controls Schematics
Wiper/Washer Schematics
Remote Function Schematics
Antilock Brake System Schematics

Subsystem References (3 of 3)


K9
Body
Control
Module
X5
12
X3
4
9
16
X4
25
X5
15
23
X7
13
X1
10
UEU
K40
K40
6311
WH/BU
1444
WH/RD
1884
BN/GN
5737
GY/GN
2081
GN/YE
3438
GN/WH
6812
YE
1932
GN/WH
1134
BU/VT
Cruise Control
Schematics
Object
Detection
Schematics
Exhaust
System
Schematics
Adjustable
Pedal
Schematics
Hydraulic
Brake
Schematics

Description and Operation

Body Control System Description and Operation

The body control system consists of the body control module (BCM), communications, and various input and outputs. Some inputs, outputs and messages require other modules to interact with the BCM. The BCM also has discrete input and output terminals to control the vehicle's body functions. The BCM is wired to the high speed GMLAN serial data bus, low speed GMLAN serial data bus and Multiple LIN buses and acts as a gateway between them.

Power Mode Master

This vehicle body control module (BCM) functions as the power mode master (PMM). The ignition switch is a low current switch with multiple discrete ignition switch signals to the PMM for determining the power mode that will be sent over the serial data circuits to the other modules that need this information; the PMM will activate relays and other direct outputs of the PMM as needed. Refer to Power Mode Description and Operation for a complete description of power mode functions.

Gateway

The body control module (BCM) in this vehicle functions as a gateway or translator. The purpose of the gateway is to translate serial data messages between the GMLAN high speed bus and the GMLAN low speed bus for communication between the various modules. The gateway will interact with each network according to that network's transmission protocol.

All communication between the BCM and a scan tool is on the high speed GMLAN serial data circuits. A lost communication DTC typically is set in modules other than the module with a communication failure.

Body Control

The various body control module (BCM) input and output circuits are illustrated in the corresponding functional areas on the BCM electrical schematics. Refer to the Body Control System Schematics for more detailed information.

Data Link Communications Description and Operation

Note: This is an overview of different serial data buses used by GM devices to communicate with each others. Use Data Communication Schematics to find out which serial data buses are configured for a specific vehicle.

Circuit Description

There are many components in a vehicle that rely on information from other sources, transmit information to other sources, or both. Serial data communication networks provide a reliable, cost effective, way for various components of the vehicle to “talk” to one another and share information.

GM uses a number of different communication buses to insure the timely and efficient exchange of information between devices. When compared to each other, some of these buses are different in nature as far as speed, signal characteristics, and behavior. An example of this is the High Speed GMLAN and Low Speed GMLAN buses.

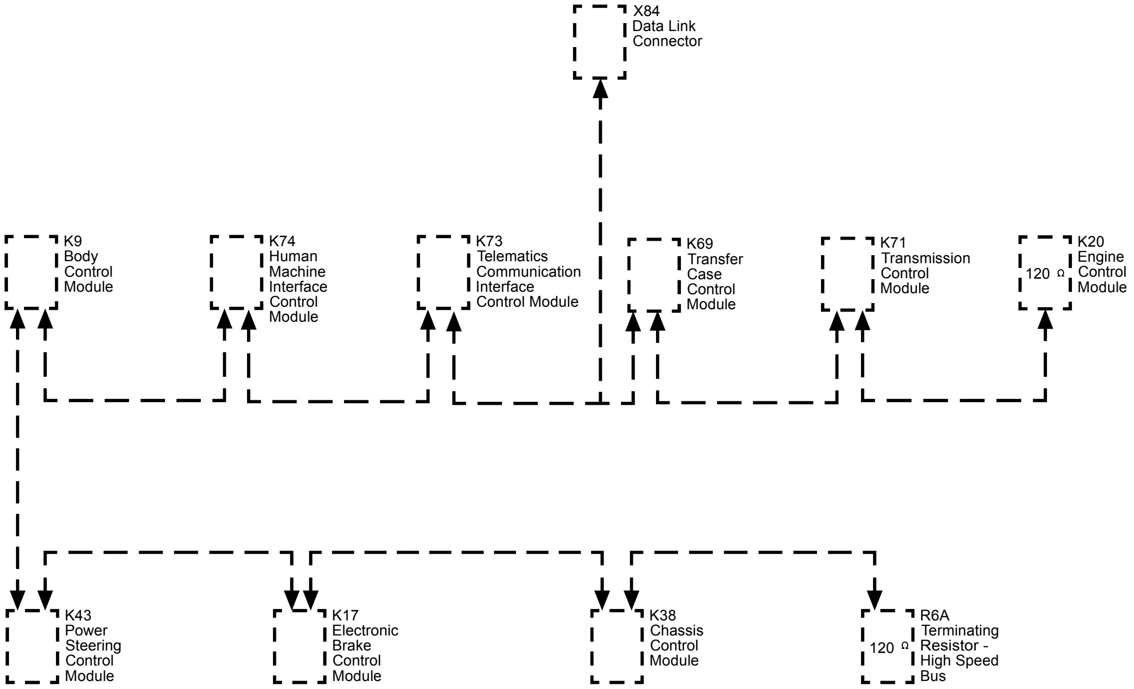
On the other hand, when other buses are compared to each other they have similar characteristics and simply operate in parallel. In this case they are used to group together components which have high interaction. Examples are the High Speed GMLAN, Powertrain Expansion, and Chassis Expansion buses. This allows them to communicate with each other on a bus with reduced message congestion insuring faster and the more timely exchange of information than if all vehicle devices were on a single bus.

The majority of information that exists within a given network generally stays local; however some information will have to be shared on other networks. Control modules designated as Gateway’s perform the function of transferring information between the various buses. A Gateway module is connected to at least 2 buses and will interact with each network according to its message strategy and transmission models.

GMLAN provides the capability for a receiving device to monitor message transmissions from other devices in order to determine if messages of interest are not being received. The primary purpose is to allow reasonable default values to be substituted for the information no longer being received. Additionally, a device may set a Diagnostic Trouble Code to indicate that the device it is expecting information from is no longer communicating.

High Speed GMLAN Circuit Description

High Speed GMLAN Block Diagram


X84 Data Link Connector
K9 Body Control Module
K74 Human Machine Interface Control Module
K73 Telematics Communication Interface Control Module
K69 Transfer Case Control Module
K71 Transmission Control Module
120 Ω
K20 Engine Control Module
K43 Power Steering Control Module
K17 Electronic Brake Control Module
K38 Chassis Control Module
120 Ω
R6A Terminating Resistor - High Speed Bus

A High Speed GMLAN Bus is used where data needs to be exchanged at a high enough rate to minimize the delay between the occurrence of a change in sensor value and the reception of this information by a control device using the information to adjust vehicle system performance.

The High Speed GMLAN serial data network consists of two twisted wires. One signal circuit is identified as GMLAN-High and the other signal circuit is identified as GMLAN-Low. At each end of the data bus there is a 120 Ω termination resistor between the GMLAN-High and GMLAN-Low circuits.

Data symbols (1’s and 0’s) are transmitted sequentially at a rate of 500 Kbit/s. The data to be transmitted over the bus is represented by the voltage difference between the GMLAN-High signal voltage and the GMLAN-Low signal voltage.

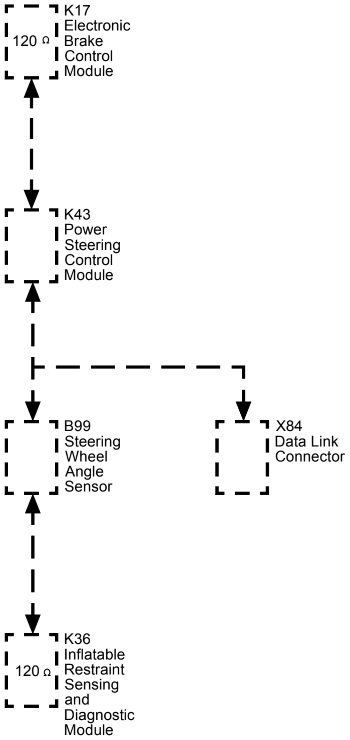
When the two wire bus is at rest the GMLAN-High and GMLAN-Low signal circuits are not being driven and this represents a logic "1". In this state both signal circuits are at the same voltage of 2.5 V. The differential voltage is approximately 0 V.

When a logic "0" is to be transmitted, the GMLAN-High signal circuit is driven higher to about 3.5 V and the GMLAN-Low circuit is driven lower to about 1.5 V. The differential voltage becomes approximately 2.0 (+/- 0.5) V.

Devices on High Speed GMLAN Bus enable or disable communication based on the voltage level of the communication enable circuit. When the circuit voltage is high (around 12 V), communications are enabled. When the circuit is low, communications are disabled.

Chassis High Speed GMLAN Circuit Description

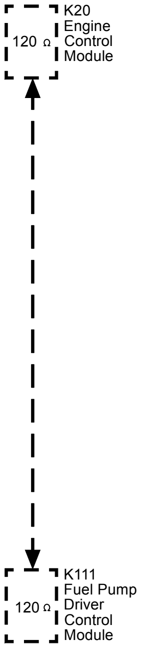
Chassis Expansion Bus Block Diagram


120 Ω
K17
Electronic
Brake
Control
Module
K43
Power
Steering
Control
Module
B99
Steering
Wheel
Angle
Sensor
X84
Data Link
Connector
120 Ω
K36
Inflatable
Restraint
Sensing
and
Diagnostic
Module

The GMLAN Chassis Expansion Bus is basically a copy of the High Speed GMLAN Bus except that its use is reserved for chassis components. This implementation splits message congestion between two parallel buses helping to insure timely message transmission and reception. Sometimes communication is required between the Chassis Expansion Bus and the primary High Speed GMLAN Bus. This is accomplished by using the K17 Electronic Brake Control Module (EBCM) as the Gateway module. Since the High Speed GMLAN Chassis Expansion Bus and primary High Speed GMLAN Bus operate in the same manner, the diagnostics for each are similar.

Powertrain High Speed GMLAN Circuit Description

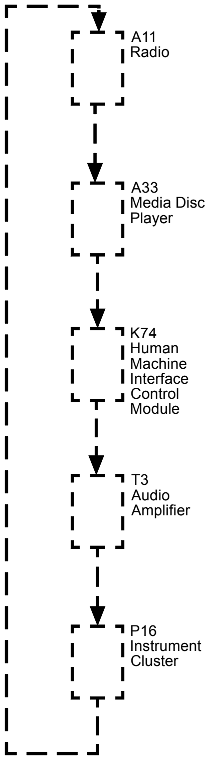
Powertrain Expansion Bus Block Diagram



The GMLAN Powertrain Expansion Bus is basically a copy of the High Speed GMLAN Bus except that its use is reserved for Powertrain components. The bus is optional based upon feature content. Sometimes communication is required between the Powertrain Expansion Bus and the primary High Speed GMLAN Bus. This is accomplished by using the K20 Engine Control Module (ECM) as the Gateway module. Since the High Speed GMLAN Powertrain Expansion Bus and the primary High Speed GMLAN Bus operate in the same manner, the diagnostics for each are similar.

Media Oriented Systems Transport (MOST) Circuit Description

MOST Bus Block Diagram



The MOST Infotainment network is a dedicated high speed multimedia streaming data bus independent from GMLAN. The MOST bus will be configured in a physical hardwired loop with each device within the bus sends and receives data on an assigned MOST addresses in a set order. Each device on the MOST bus will be required to have twisted pair copper wires (2 transmit TX, 2 receive RX, and 1 electronic control line which is a 12 V wakeup signal line). The A11 Radio is the MOST Master and will monitor the bus for vehicle configuration, Infotainment data messages and errors on the bus. The MOST initialization consists of a short 100 ms low voltage pulse on the electronic control line (or MOST control line) connected to all devices contained on the MOST ring. When the MOST devices receive this wakeup message, they will respond with a generic device response. Once these initial responses on the MOST bus are reported successfully without error to the A11 Radio, the next responses will report the MOST device addresses, their functionality requirements and capabilities within. The A11 Radio will learn this information and also record the address node sequence on the MOST bus at this point. This node address list will now be stored within the A11 Radio as the MOST bus configuration (called “Last Working MOST ID of Node 1 – 9” on scan tool data display).

When MOST receive, transmit, or control line faults are detected, transmit/receive messages will not be received as expected from the wakeup request. The A11 Radio and the K74 Human Machine Interface Control Module will then perform diagnostics to isolate these MOST faults. If the MOST control line is shorted low to 0 V for excess amount of time, the A11 Radio will set a U2098 DTC and K74 Human Machine Interface Control Module will set a U0029 02 DTC. At this point the MOST bus will be unable to communicate until the shorted MOST control line is repaired.

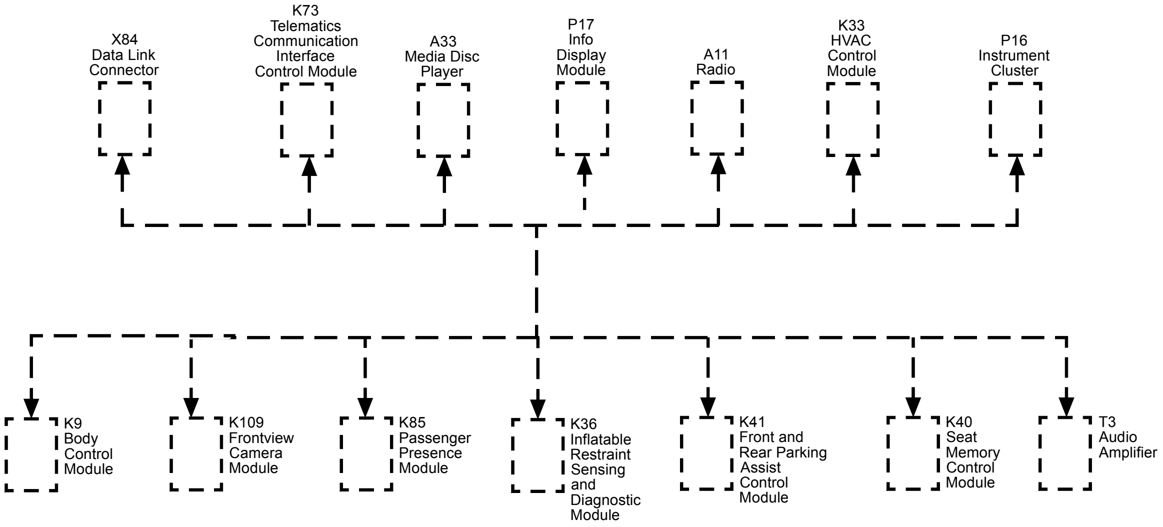
Once the shorted MOST control line diagnostics pass, the A11 Radio will attempt to resend the initial short pulse attempts up to 3 times on the MOST control line. If the expected responses are not received, the A11 Radio continues into a failure mode setting a U0028 DTC and will continue on to send 300 ms long pulses while DTC U0028 is current, which will enable the furthest upstream transmitting device to become the surrogate MOST Master in this MOST fault/diagnostic mode. When the A11 Radio receives this new MOST Master identity, the surrogate MOST master device can be identified based on scan tool data parameter “Surrogate MOST Master Node Upstream Position”. The scan tool and schematics will be used to determine the MOST bus configuration and direction by utilizing the “Last Working MOST ID of Node 1 – 9” parameters from the A11 Radio data display. When a fault is present, it will indicate the newly enabled “Surrogate MOST Master Node Upstream Position” to the A11 Radio. This will assist in determining the location of the MOST device/bus/control fault. The MOST device and circuits upstream from the surrogate MOST master device, transmit, receive, or control lines will be the suspect areas for diagnostics at this point. These faults can be associated with any of the MOST transmit, receive, or control line twisted copper wires or possibly an internal device fault.

DTC U0028 will take approximately 10 s for diagnostics to set in the A11 Radio with an active fault condition. With the latest software, the A11 Radio will report the Surrogate MOST Master Node Upstream Position value when DTC U0028 is stored in history. When there is no MOST bus fault, this value is None. The U0028 DTC state and the Number of MOST Communication Breaks parameter must be used with the Surrogate MOST Master Node Upstream Position parameter for a successful diagnosis. This is used to help capture surrogate information on intermittent fault conditions. The Number of MOST Communication Breaks counter will increment each time the MOST bus state transitions from Normal Operation (Lock status) to Off State (Unlock status) and will accumulate from 0-65535. After the Number of MOST Communication Breaks counter increments 10 times, DTC U0028 will be set. It is important to clear DTC U0028 and reset the Surrogate MOST Master Node Upstream Position value to None after a successful repair. The Surrogate MOST Master Node Upstream Position value can be reset to None by disconnecting the A11 Radio power, disconnecting battery cables, or 50 ignition power down cycles. This will also reset the Number of MOST Communication Breaks counter to 0.

The K74 Human Machine Interface Control Module will set a U0029 00 DTC when it diagnoses a MOST bus not communicating properly after one attempt. When the DTC U0029 00 is set by the K74 Human Machine Interface Control Module without the corresponding DTC U0028 from the A11 Radio, it will be an indication of an intermittent wiring/device condition.

Low Speed GMLAN Circuit Description

Low Speed GMLAN Block Diagram


X84
Data Link
Connector
K73
Telematics
Communication
Interface
Control Module
A33
Media Disc
Player
P17
Info
Display
Module
A11
Radio
K33
HVAC
Control
Module
P16
Instrument
Cluster
K9
Body
Control
Module
K109
Frontview
Camera
Module
K85
Passenger
Presence
Module
K36
Inflatable
Restraint
Sensing
and
Diagnostic
Module
K41
Front and
Rear Parking
Assist
Control
Module
K40
Seat
Memory
Control
Module
T3
Audio
Amplifier

Low Speed GMLAN Bus is used in applications where a high data rate is not required which allows for the use of less complex components. It is typically used for operator controlled functions where the response time requirements are slower than those required for dynamic vehicle control.

The Low Speed GMLAN Serial Data Network consists of a single wire, ground referenced bus with high side voltage drive. During on road vehicle operation data symbols (1’s and 0’s) are transmitted sequentially at the normal rate of 33.3 Kbit/s. For component programming only, a special high speed data mode of 83.3 Kbit/s may be used.

Unlike the high speed dual wire networks, the single wire low speed network does not use terminating resistors at either end of the network.

The data symbols to be transmitted over the bus are represented by different voltage signals on the bus. When the Low Speed GMLAN Bus is at rest and is not being driven, there is a low signal voltage of approximately 0.2 V. This represents a logic “1”. When a logic “0” is to be transmitted, the signal voltage is driven higher to around 4.0 V or higher.

Local Interconnect Network (LIN) Circuit Description

The Local Interconnect Network (LIN) Bus consists of a single wire with a transmission rate of 10.417 Kbit/s. This bus is used to exchange information between a master control module and other smart devices which provide supporting functionality. This type of configuration does not require the capacity or speed of either a High Speed GMLAN Bus or Low Speed GMLAN Bus and is thus relatively simpler.

The data symbols (1’s and 0’s) to be transmitted are represented by different voltage levels on the communication bus. When the LIN Bus is at rest and is not being driven, the signal is in a high voltage state of approximately Vbatt. This represents a logic “1”. When a logic “0” is to be transmitted, the signal voltage is driven low to about ground (0.0 V).

Data Link Connector (DLC)

The X84 Data Link Connector (DLC) is a standardized 16-cavity connector. Connector design and location is dictated by an industry wide standard, and is required to provide the following:

- Pin 1 Low speed GMLAN communications terminal
- Pin 2 Class 2 communications terminal
- Pin 3 Mid speed GMLAN serial bus (+) terminal or Object high speed GMLAN serial bus (+) terminal
- Pin 4 Scan tool power ground terminal
- Pin 5 Common signal ground terminal
- Pin 6 High speed GMLAN serial data bus (+) terminal
- Pin 7 Keyword communications terminal
- Pin 11 Mid speed GMLAN serial bus (-) terminal or Object high speed GMLAN serial bus (-) terminal
- Pin 12 Chassis high speed GMLAN serial bus (+) terminal
- Pin 13 Chassis high speed GMLAN serial bus (-) terminal
- Pin 14 High speed GMLAN serial data bus (-) terminal

- Pin 16 Scan tool power, battery positive voltage terminal

Serial Data Reference

The scan tool communicates over the various buses on the vehicle. When a scan tool is installed on a vehicle, the scan tool will try to communicate with every device that could be optioned into the vehicle. If an option is not installed on the vehicle, the scan tool will display No Comm (or Not Connected) for that optional device. In order to avert misdiagnoses of No Communication with a specific device, refer to CELL Link Error - Link target cell (cell ID 148085) is invalid for this publication. for a list of devices, the buses they communicate with, and the RPO codes for a specific device.

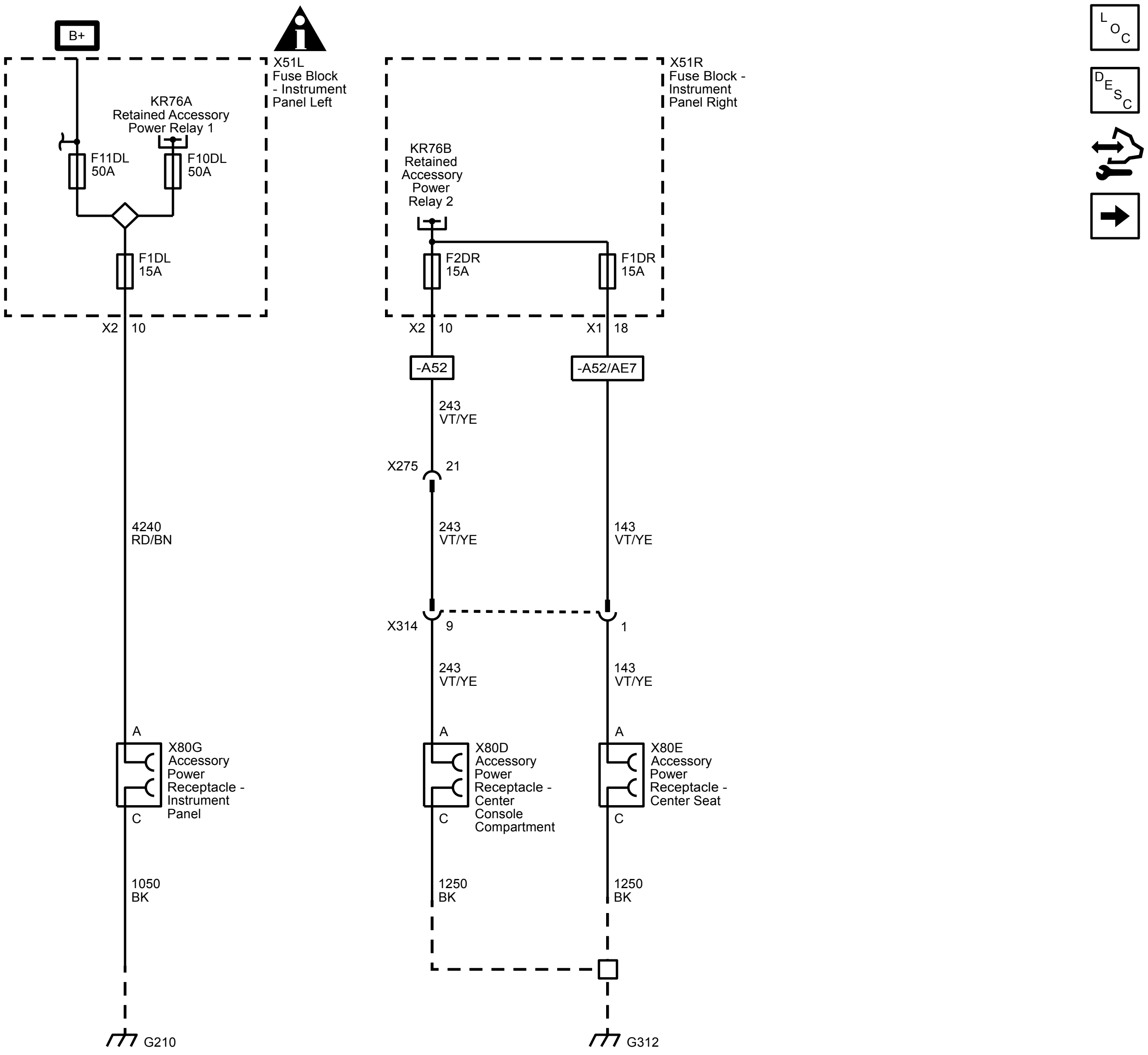
Power and Signal Distribution

Power Outlets

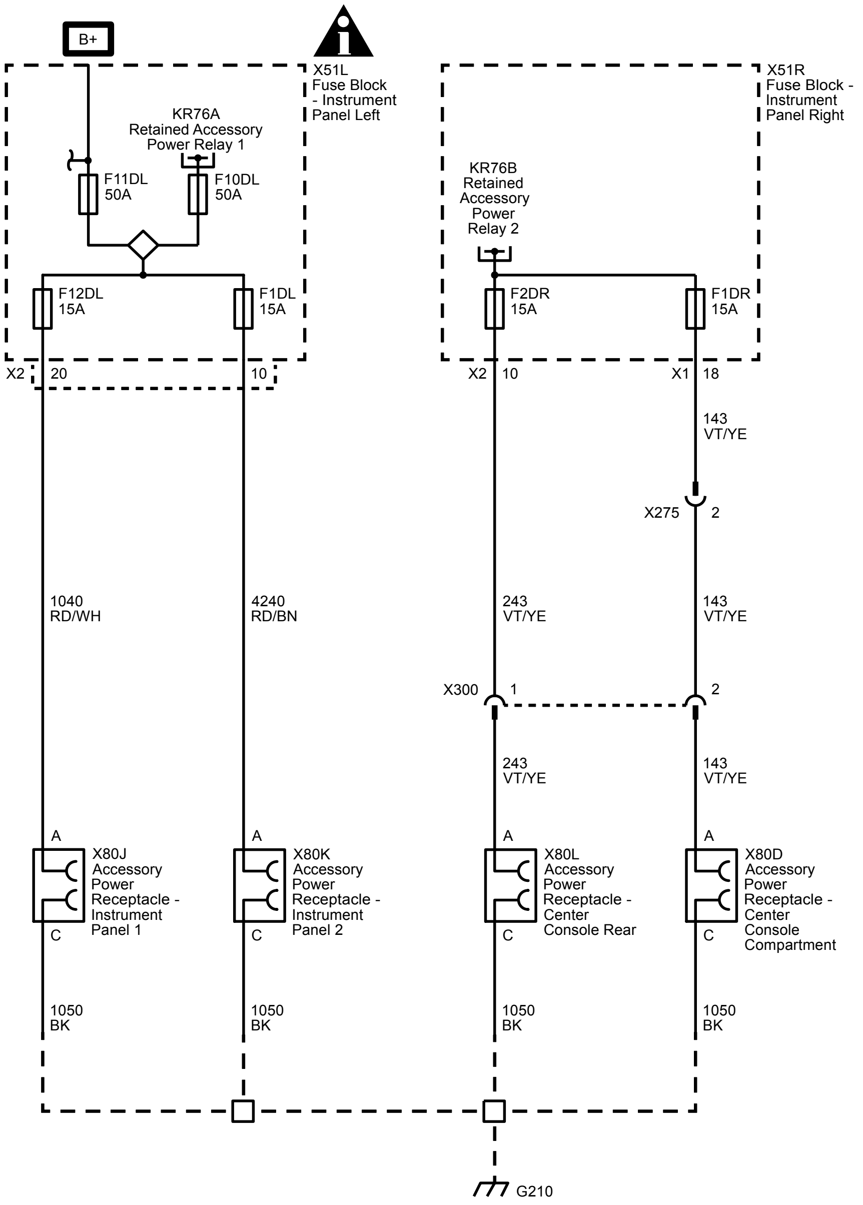
Schematic and Routing Diagrams

Cigar Lighter/Power Outlet Schematics

12-Volt DC Power Outlets (Bench Seat - D09)


B+
X51L
Fuse Block - Instrument Panel Left
KR76A
Retained Accessory Power Relay 1
F11DL
50A
F10DL
50A
F1DL
15A
X2
10
4240
RD/BN
A
X80G
Accessory Power Receptacle - Instrument Panel
C
1050
BK
G210
X51R
Fuse Block - Instrument Panel Right
KR76B
Retained Accessory Power Relay 2
F2DR
15A
F1DR
15A
X2
10
X1
18
-A52
-A52/AE7
243
VT/YE
X275
21
243
VT/YE
143
VT/YE
X314
9
1
243
VT/YE
143
VT/YE
A
X80D
Accessory Power Receptacle - Center Console Compartment
C
A
X80E
Accessory Power Receptacle - Center Seat
C
1250
BK
1250
BK
G312
LOC
DESC

12-Volt DC Power Outlets (with Console - D07)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X51L
Fuse Block
- Instrument
Panel Left
KR76A
Retained Accessory
Power Relay 1
F11DL
50A
F10DL
50A
F12DL
15A
F1DL
15A
X2
20
10
1040
RD/WH
4240
RD/BN
X51R
Fuse Block -
Instrument
Panel Right
KR76B
Retained
Accessory
Power
Relay 2
F2DR
15A
F1DR
15A
X2
10
X1
18
143
VT/YE
X275
2
243
VT/YE
143
VT/YE
X300
1
2
243
VT/YE
143
VT/YE
A
X80J
Accessory
Power
Receptacle -
Instrument
Panel 1
C
A
X80K
Accessory
Power
Receptacle -
Instrument
Panel 2
C
A
X80L
Accessory
Power
Receptacle -
Center
Console Rear
C
A
X80D
Accessory
Power
Receptacle -
Center
Console
Compartment
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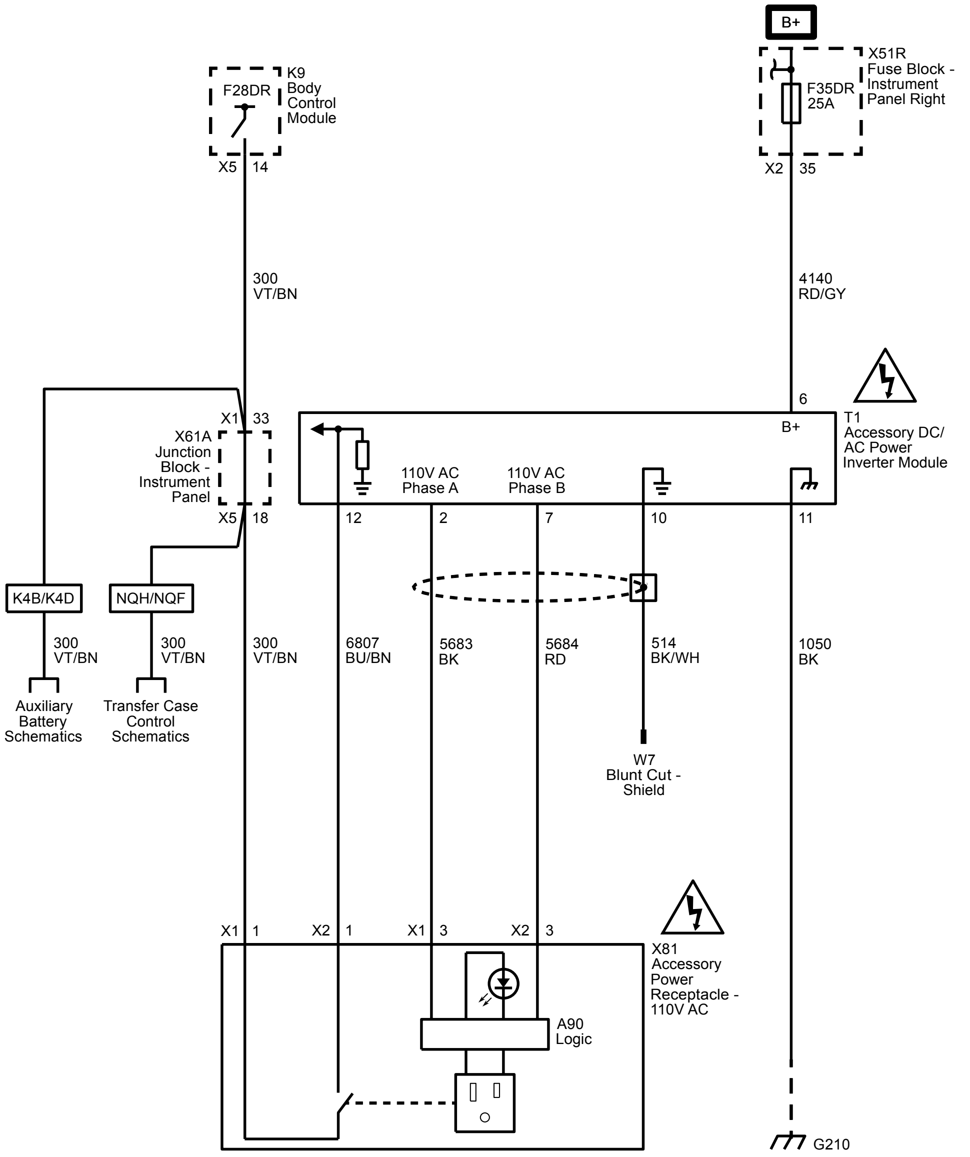
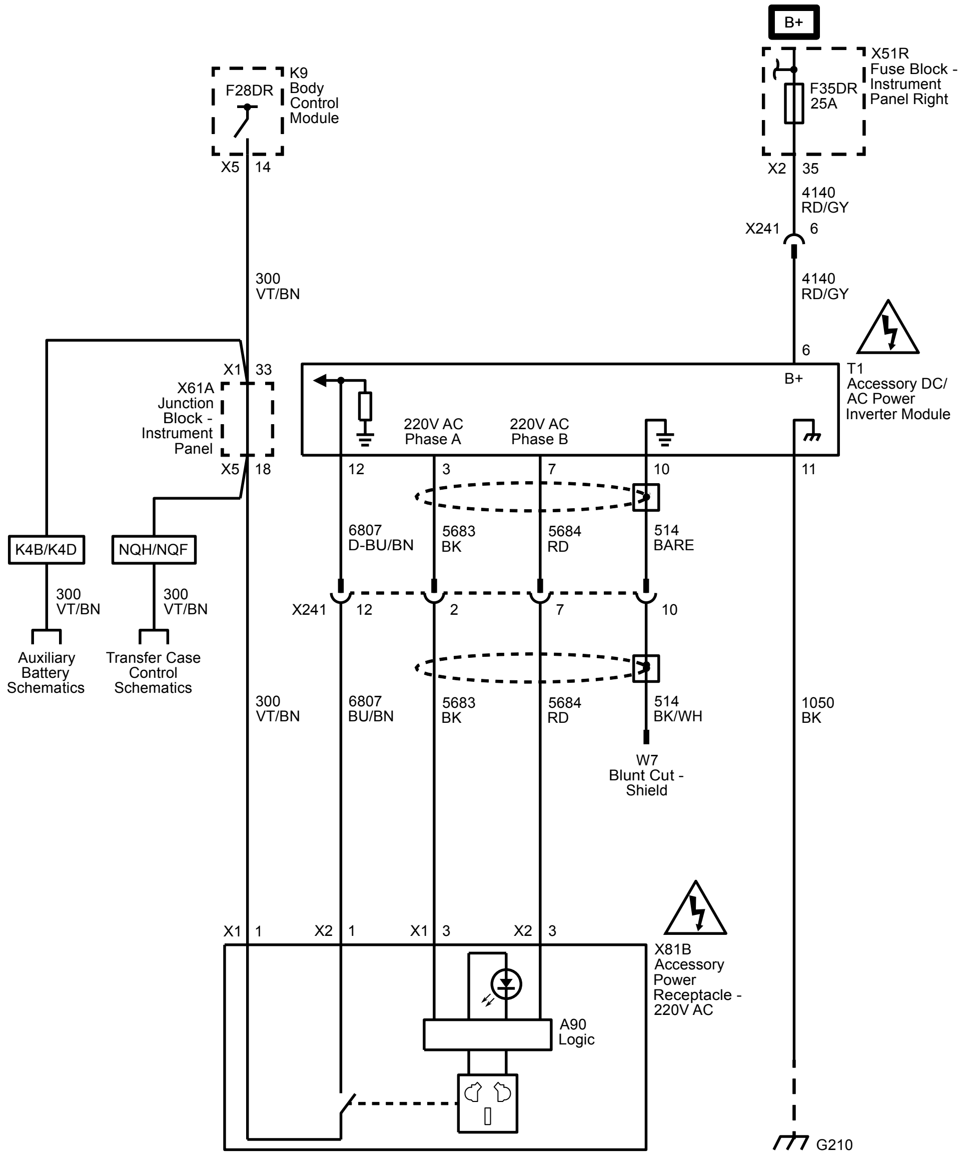
1050
BK
1050
BK
1050
BK
1050
BK
G210

110-Volt AC Power Outlet (KI4)


B+
X51R
Fuse Block -
Instrument
Panel Right
F35DR
25A
X2 35
4140
RD/GY
F28DR
K9
Body
Control
Module
X5 14
300
VT/BN
X1 33
X61A
Junction
Block -
Instrument
Panel
X5 18
6
B+
T1
Accessory DC/
AC Power
Inverter Module
110V AC
Phase A
110V AC
Phase B
12
2
7
10
11
K4B/K4D
NQH/NQF
300
VT/BN
300
VT/BN
300
VT/BN
6807
BU/BN
5683
BK
5684
RD
514
BK/WH
1050
BK
Auxiliary
Battery
Schematics
Transfer Case
Control
Schematics
W7
Blunt Cut -
Shield
X1 1
X2 1
X1 3
X2 3
X81
Accessory
Power
Receptacle -
110V AC
A90
Logic
G210

220-Volt AC Power Outlet (KI5)


B+
X51R
Fuse Block - Instrument Panel Right
F35DR
25A
X2
35
4140
RD/GY
X241
6
4140
RD/GY
F28DR
K9
Body Control Module
X5
14
300
VT/BN
X1
33
X61A
Junction Block - Instrument Panel
X5
18
6
B+
T1
Accessory DC/ AC Power Inverter Module
220V AC
Phase A
220V AC
Phase B
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3
7
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K4B/K4D
NQH/NQF
300
VT/BN
300
VT/BN
Auxiliary Battery Schematics
Transfer Case Control Schematics
6807
D-BU/BN
5683
BK
5684
RD
514
BARE
X241
12
2
7
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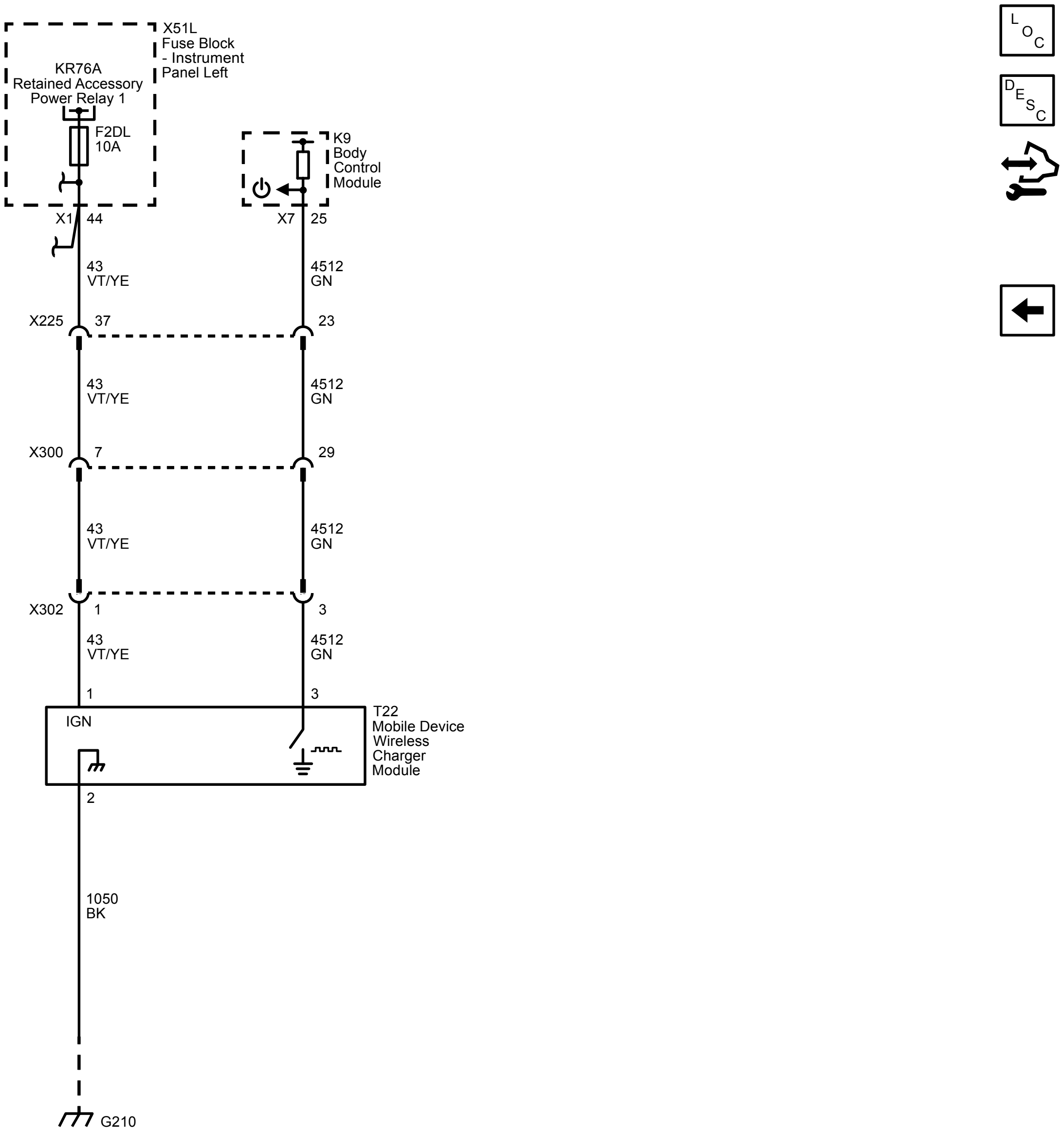
300
VT/BN
6807
BU/BN
5683
BK
5684
RD
514
BK/WH
W7
Blunt Cut - Shield
1050
BK
X1
1
X2
1
X1
3
X2
3
X81B
Accessory Power Receptacle - 220V AC
A90
Logic
G210


X51L
Fuse Block
- Instrument
Panel Left
KR76A
Retained Accessory
Power Relay 1
F2DL
10A
X1
44
43
VT/YE
K9
Body
Control
Module
X7
25
4512
GN
X225
37
23
X300
7
29
X302
1
3
IGN
2
T22
Mobile Device
Wireless
Charger
Module
1050
BK
G210
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Description and Operation

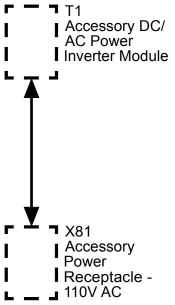
Power Outlets Description and Operation

12 Volt Power Outlet Receptacle Description and Operation

The vehicle is fitted with a 12 V accessory power receptacle. The accessory power receptacles are controlled by an ignition operated relay. The accessory power receptacles are operational when the ignition is turned to either the On or the Accessories positions. The X80J and X80K accessory power receptacles may be configured to be operational when the ignition is Off by changing the position of the 50A fuse from the F10DL position to the F11DL position in the left instrument panel fuse block.

110 Volt Power Outlet Receptacle System Description

Power Outlets Block Diagram



The alternating current (AC) accessory power outlet system consists of the accessory DC/AC power inverter module and the accessory power receptacle – 110 V AC. The accessory DC/AC power inverter module converts 12 V direct current (DC) battery power to 110 V at 60 Hertz (Hz) AC power to operate AC powered devices. The accessory DC/AC power inverter module provides up to 150 watts of power. The accessory power receptacle – 110 V AC provides the usual connection for AC powered devices.

110 Volt Power Outlet Receptacle System Operation

The accessory DC/AC power inverter module receives fuse protected battery voltage and is connected to the 12 V electrical system ground. The accessory power receptacle – 110 V AC has an internal switch, that detects when an AC powered device is plugged into the outlet. When the ignition is ON, and an AC powered device is plugged into the accessory power receptacle – 110 V AC, the normally open switch in the accessory power receptacle – 110 V AC, closes. When the accessory DC/AC power inverter module detects the voltage from the accessory power receptacle – 110 V AC switch, the inverter module begins to supply 110 V AC to the accessory power receptacle – 110 V AC after a 1.5 s delay. The accessory AC power system is protected against circuit overload and circuit shorts to ground.

110 Volt Power Outlet Receptacle Isolation Fault Protection

The accessory DC/AC power inverter module contains a ground fault circuit interrupter (GFCI). GFCI monitors the 110 V circuit for a short to vehicle chassis ground. If a 110 V AC short to ground is detected, the accessory DC/AC power inverter module will turn OFF. The module remains OFF, until the AC powered device is unplugged from the outlet, and then plugged into the outlet after a 3 s delay.

110 Volt Power Outlet Receptacle Overload Shutdown

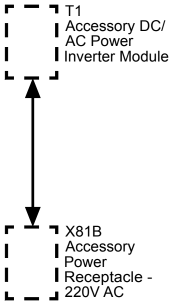
The accessory DC/AC power inverter module will turn OFF if the current in the 110 V circuit is greater than 3.8 A for 1 s , or 2.5 A for 10 s . The module will turn ON again, when the AC powered device is unplugged from the outlet, and then plugged into the outlet after a 3 s delay.

110 Volt Power Outlet Receptacle Internal Shutdown

The accessory DC/AC power inverter module will turn OFF if the B+ supply voltage is greater than 16.5 V or less than 11 V. The module will also turn OFF if the device temperature is greater than 85°C (185°F). The module will turn ON again, after the shutdown condition is corrected, and the AC powered device is unplugged from the outlet, and then plugged into the outlet.

230 Volt Power Outlet Receptacle System Description

Power Outlets Block Diagram



The alternating current (AC) accessory power outlet system consists of the accessory DC/AC power inverter module and the accessory power receptacle – 220V AC. The accessory DC/AC power inverter module converts 12 V direct current (DC) battery power to 220–230 V at 50 Hertz (Hz) AC power to operate AC powered devices. The accessory DC/AC power inverter module provides up to 150 watts of power. The accessory power receptacle – 220V AC provides the usual connection for AC powered devices.

230 Volt Power Outlet Receptacle System Operation

The accessory DC/AC power inverter module receives fuse protected battery voltage and is connected to the 12 V electrical system ground. The accessory power receptacle – 220V AC has an internal switch, that detects when an AC powered device is plugged into the outlet. When the ignition is ON, and an AC powered device is plugged into the accessory power receptacle – 220V AC, the normally open switch in the accessory power receptacle – 220V AC, closes. When the accessory DC/AC power inverter module detects the voltage from the accessory power receptacle – 220V AC switch, the inverter module begins to supply 220–230 V AC to the accessory power receptacle – 220V AC after a 1.5 second delay. The accessory AC power system is protected against circuit overload and circuit shorts to ground.

230 Volt Power Outlet Receptacle Isolation Fault Protection

The accessory DC/AC power inverter module contains a ground fault circuit interrupter (GFCI). GFCI monitors the 230 V circuit for a short to vehicle chassis ground. If a 230 V AC short to ground is detected, the accessory DC/AC power inverter module will turn OFF. The module remains OFF, until the AC powered device is unplugged from the outlet, and then plugged into the outlet after a 3 s delay.

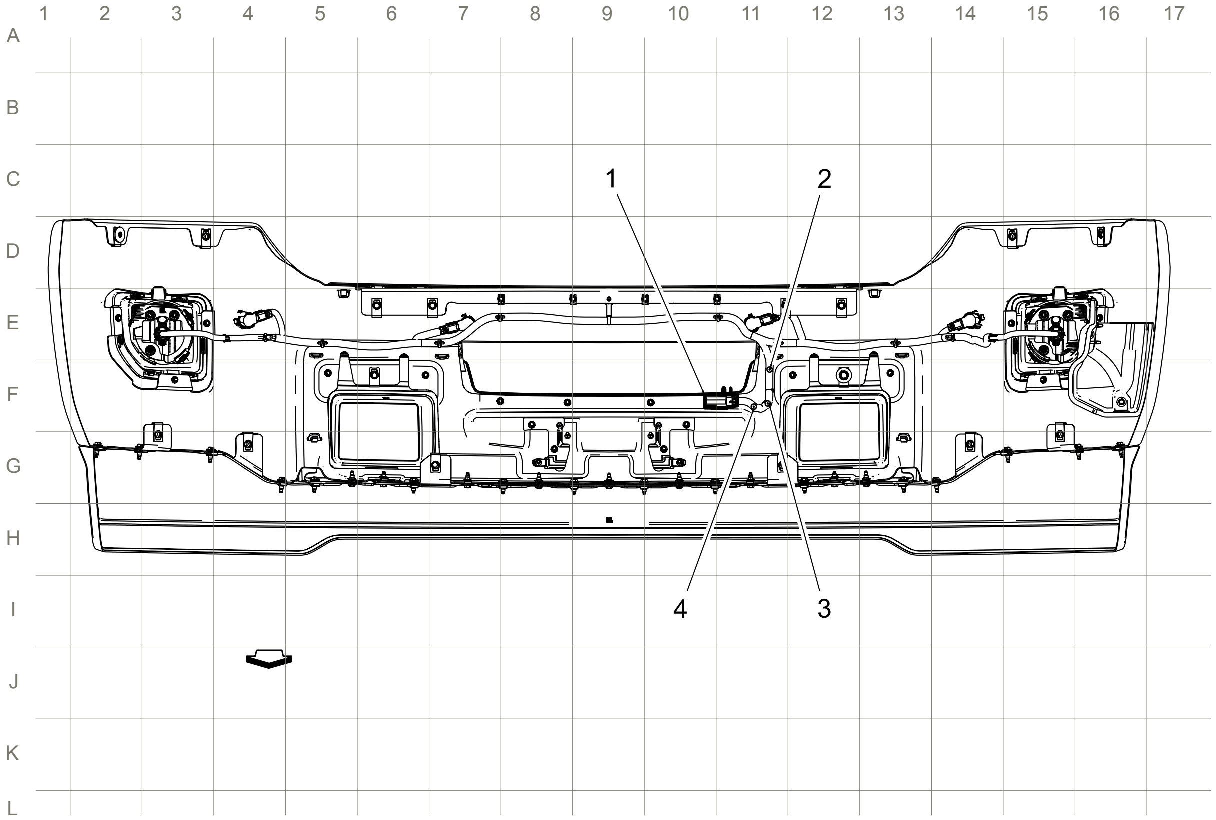
230 Volt Power Outlet Receptacle Overload Shutdown

The accessory AC/DC power control module will turn OFF if the current in the 230 V circuit is greater than 3.8 A for 1 second, or 2.5 A for 10 seconds. The module will turn ON again, when the AC powered device is unplugged from the outlet, and then plugged into the outlet after a 3 second delay.

230 Volt Power Outlet Receptacle Internal Shutdown

The accessory DC/AC power inverter module will turn OFF if the B+ supply voltage is greater than 16.5 V or less than 11 V. The module will also turn OFF if the device temperature is greater than 85°C (185°F). The module will turn ON again, after the shutdown condition is corrected, and the AC powered device is unplugged from the accessory power receptacle – 220V AC, and then plugged into the accessory power receptacle – 220V AC.

Front Bumper Harness Routing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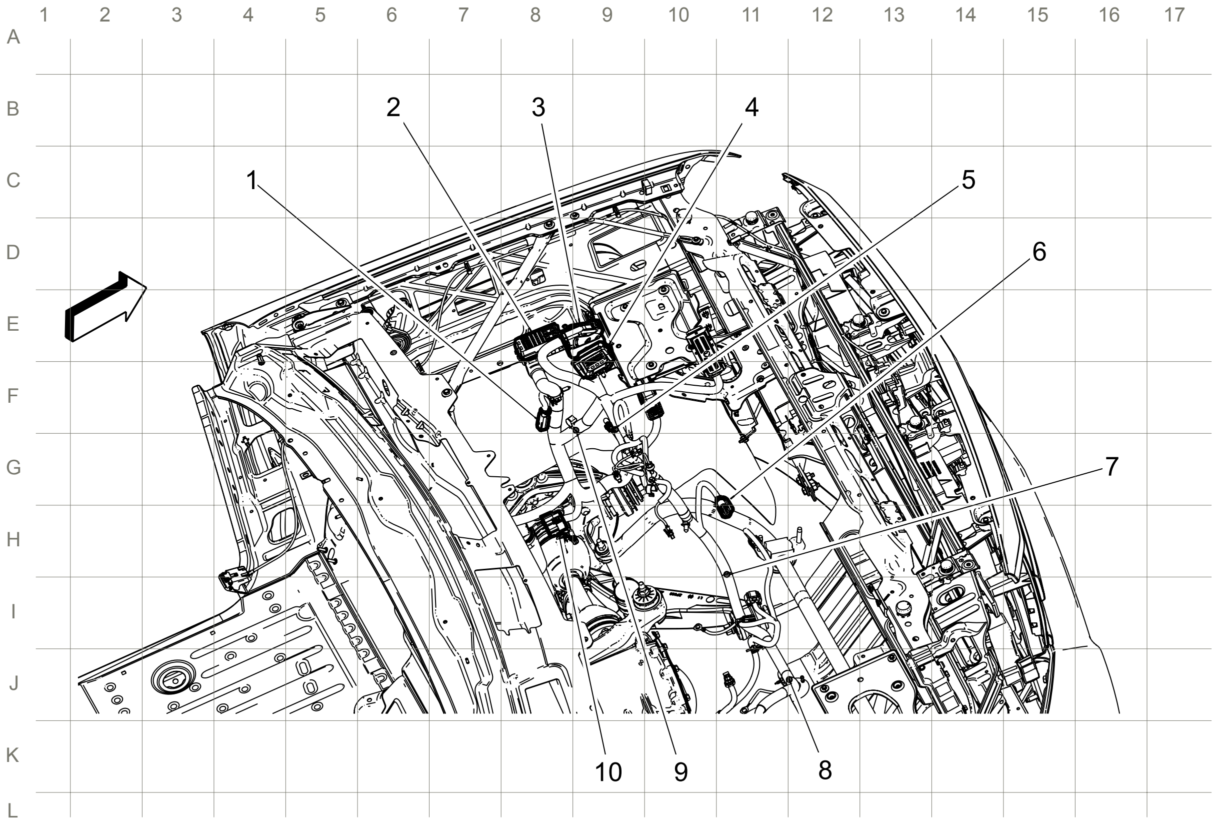
Items

1. X100 (T3U or UD5)
2. J107
3. J105
4. J101

Engine Compartment Left Harness Routing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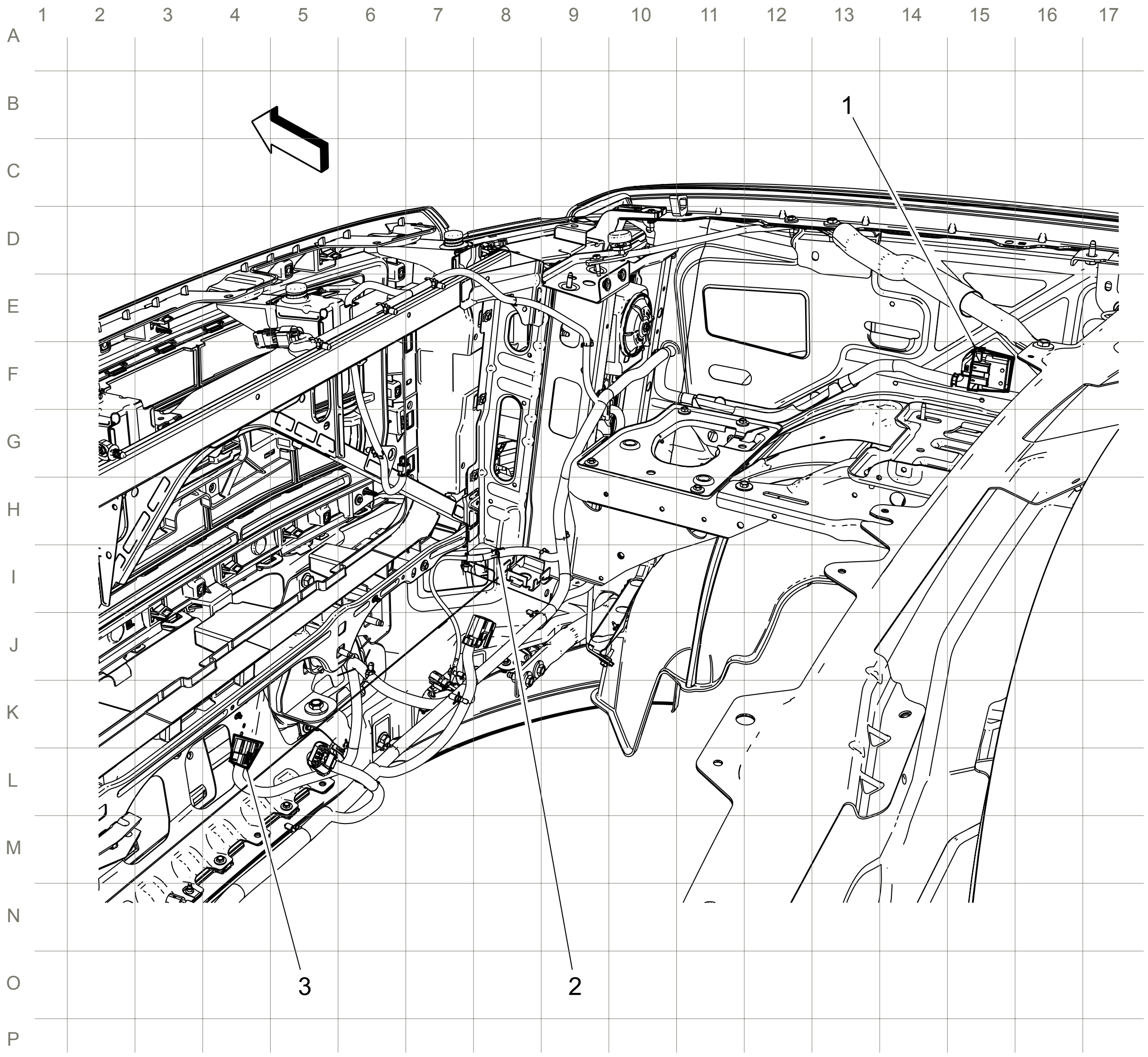
Items

1. X111 (NQF, NQG or NQH)
2. X50A Fuse Block - Underhood
3. X115
4. X101 (LML)
5. J124
6. X102
7. J113 (LML)
8. J126
9. J165
10. X125

Engine Compartment Right Harness Routing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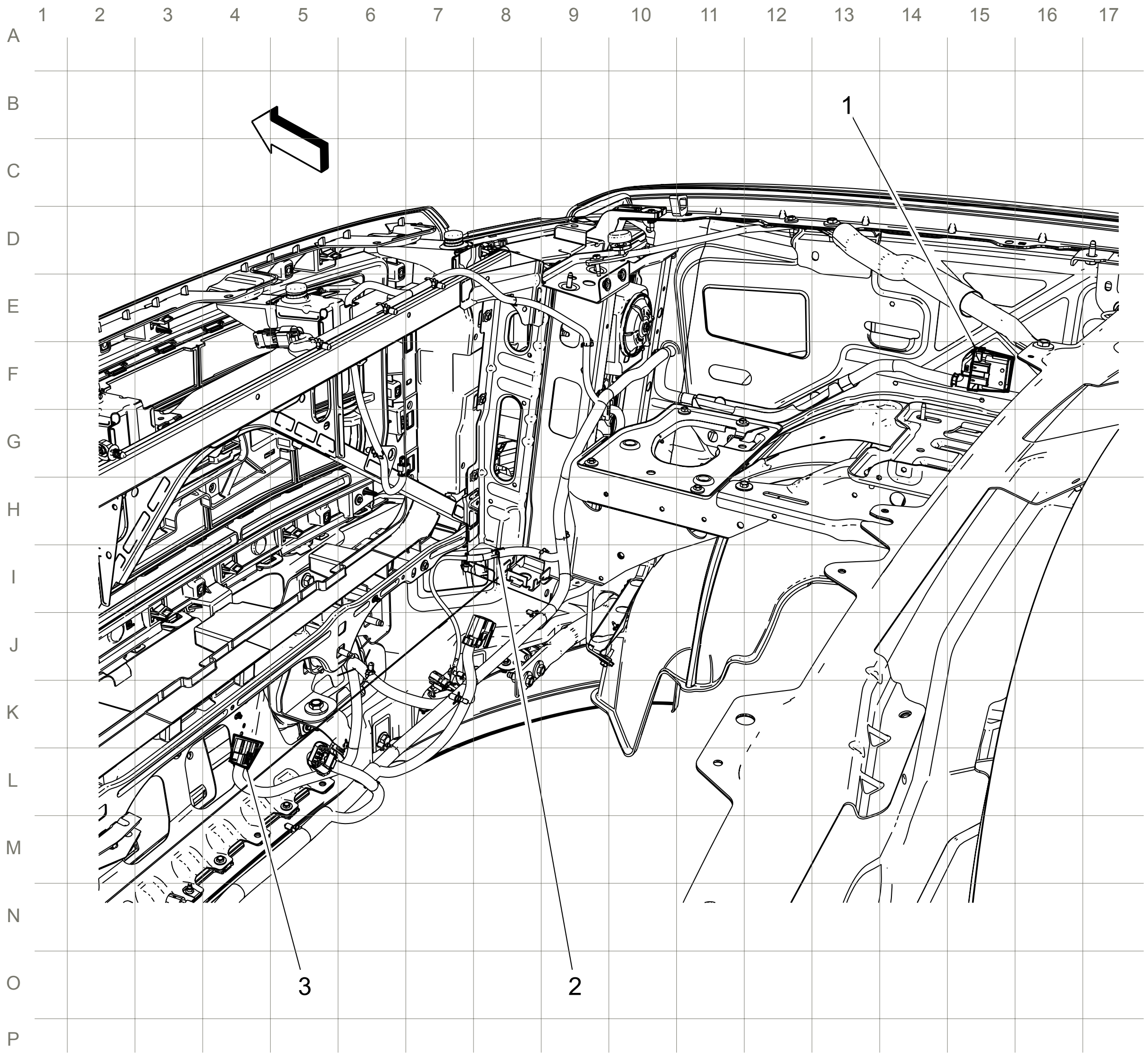
Items

1. X150
2. J125
3. X100 (T3U or UD5)

Engine Compartment Right Harness Routing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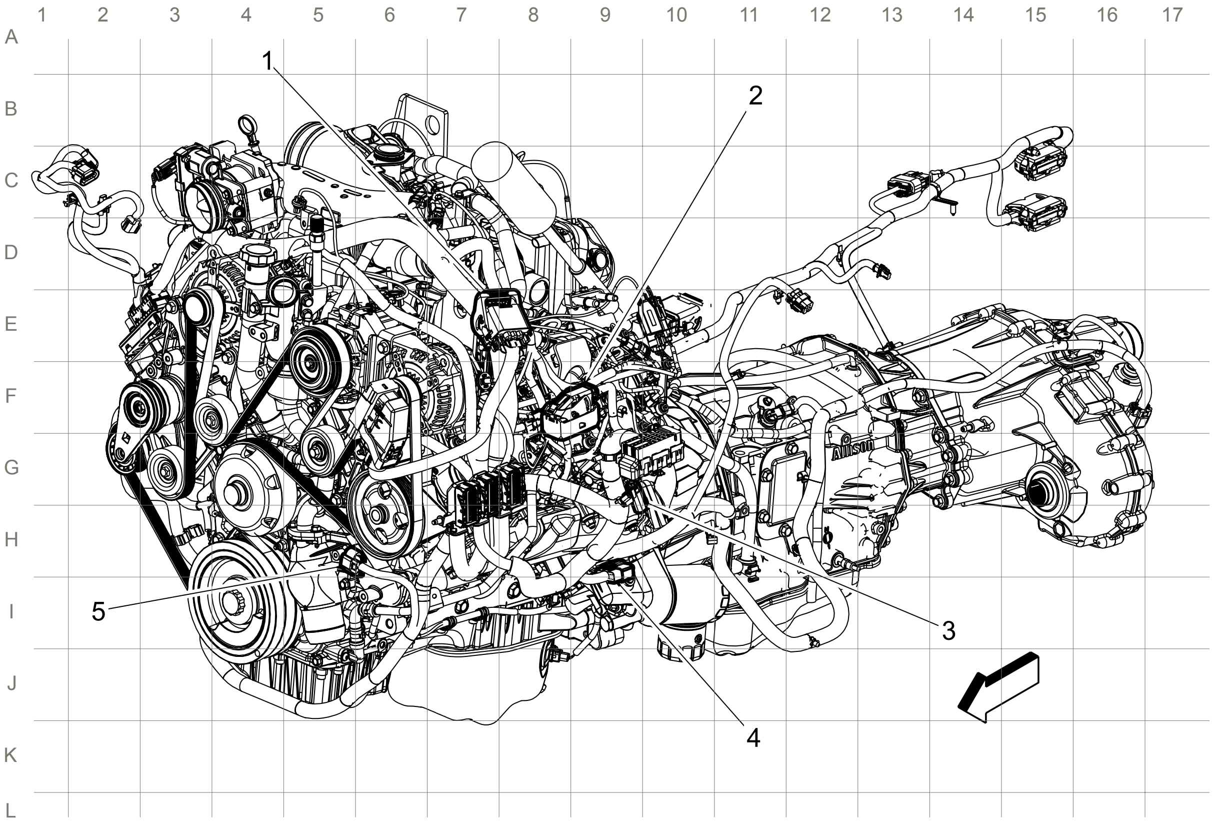
Items

1. X150
2. J125
3. X100 (T3U or UD5)

Left Side of Engine Harness Routing (LML)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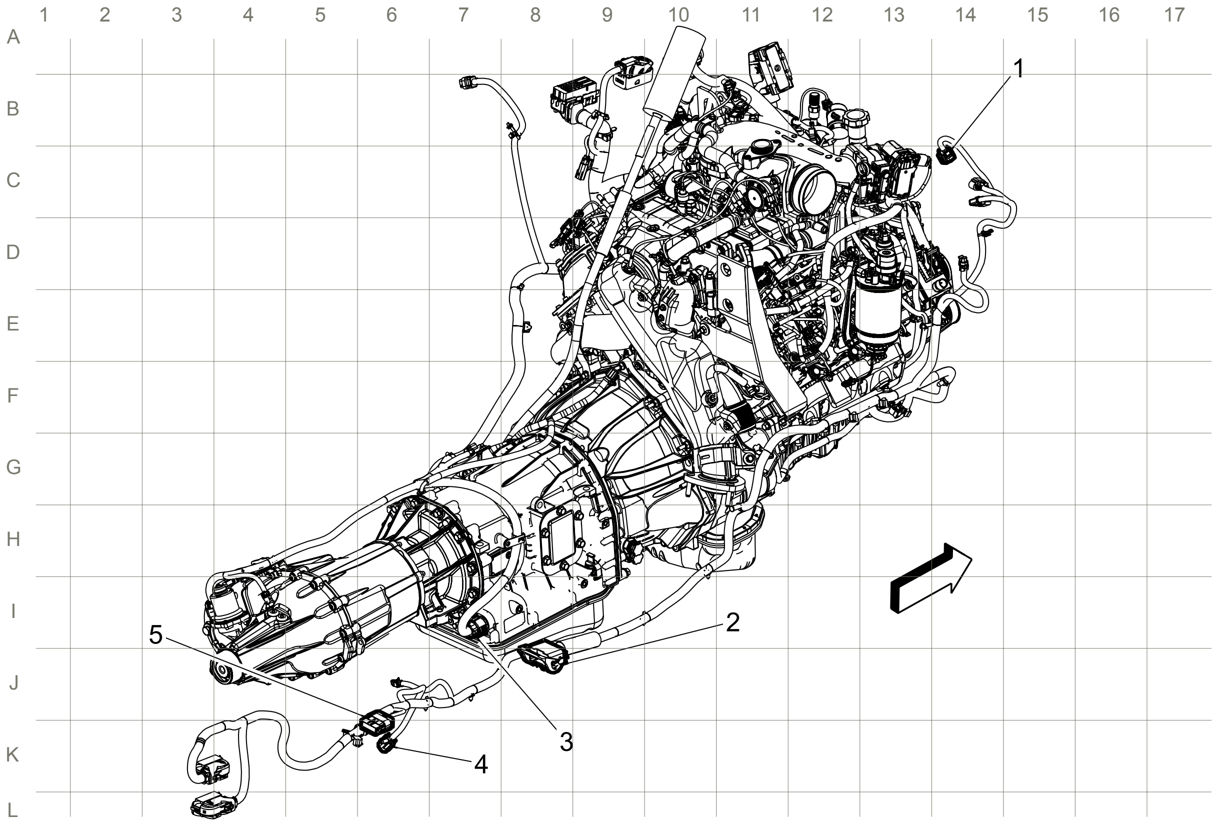
ALLISON

Items

1. X101 (LML)
2. X115
3. X111 (NQF, NQG or NQH)
4. X125
5. X102

Right Side of Powertrain (LML with MW7)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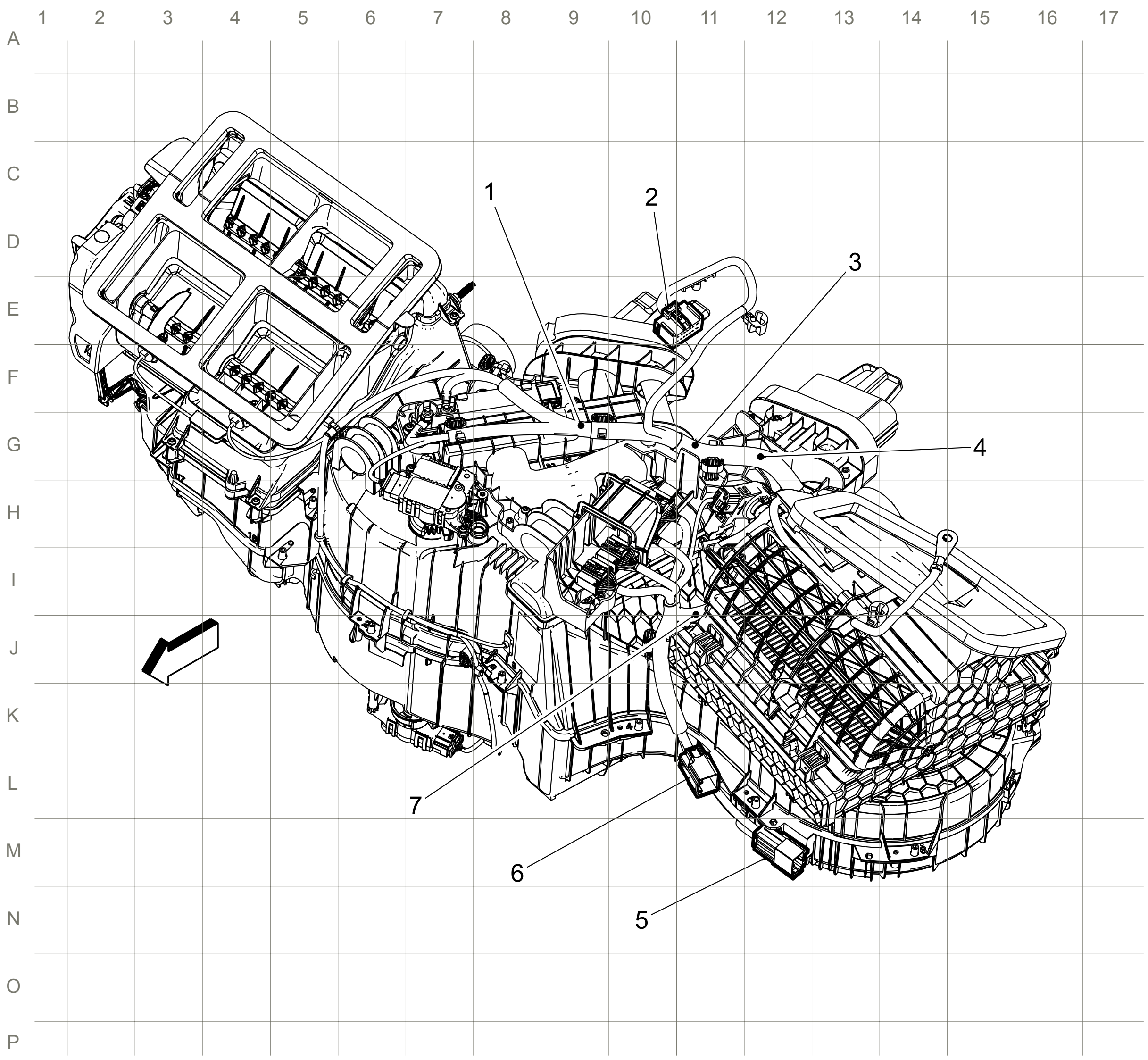
Items

1. X157
2. X345 (LML)
3. X175
4. X346
5. X191 (PTO)

HVAC Assembly Harness Routing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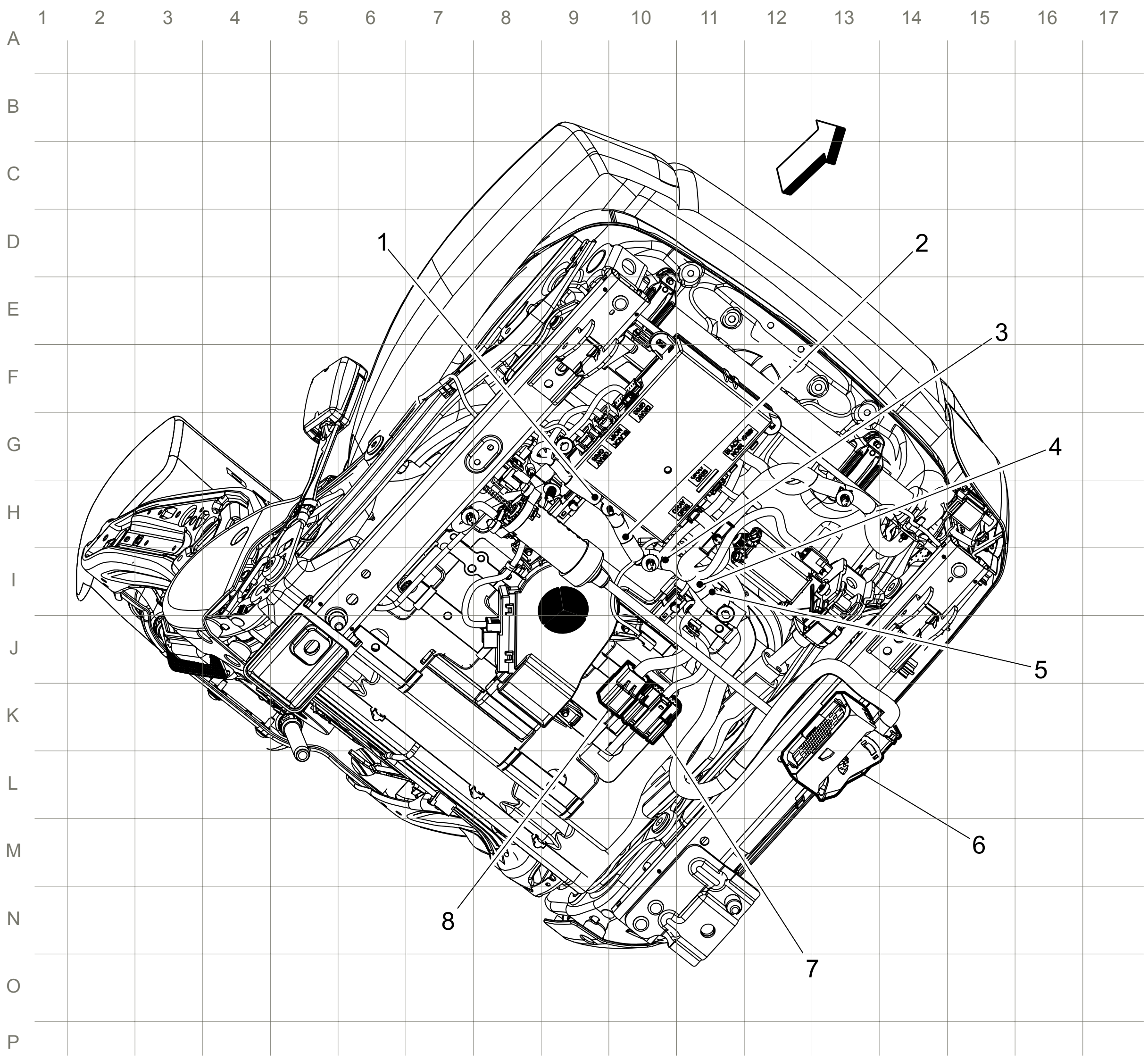
Items

1.	J258
2.	X215
3.	J255
4.	J216
5.	X217
6.	X216
7.	J257

Bottom of Driver Seat Harness Routing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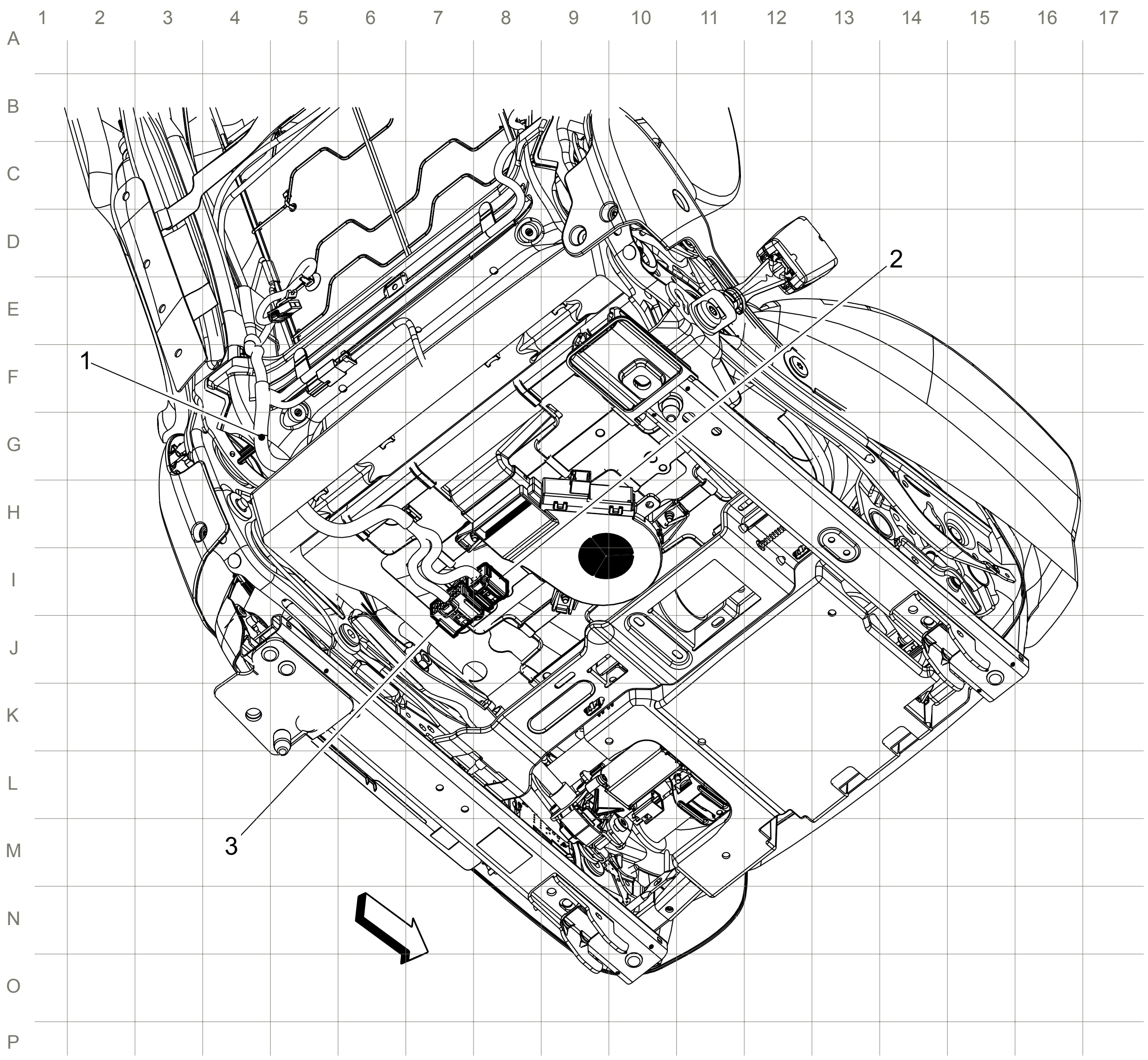
Items

1. J314
2. J315
3. J313
4. J316
5. J317
6. X310
7. X312
8. X311

Back of Driver Seat Harness Routing



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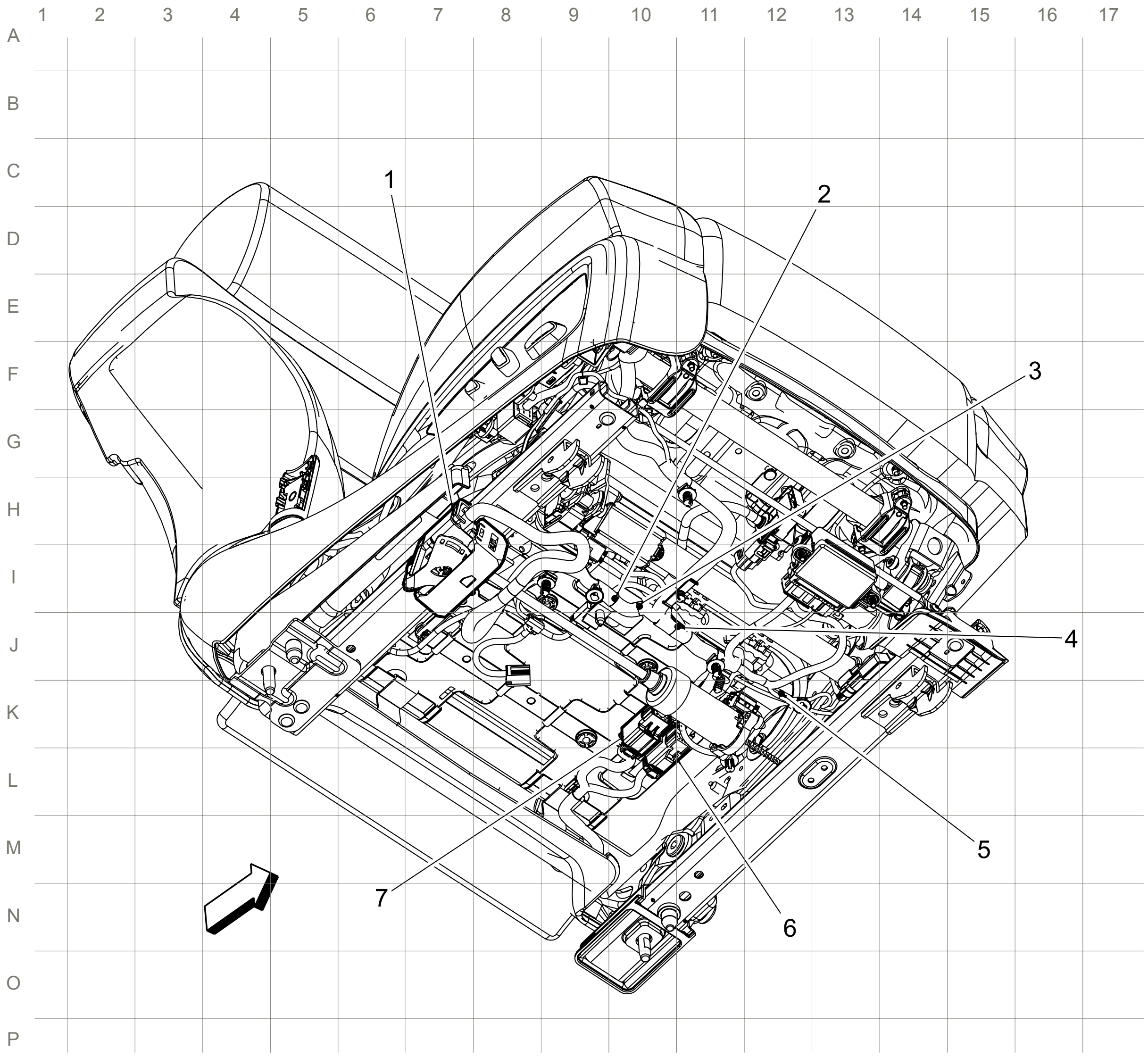
Items

1. J313
2. X311
3. X312

Bottom of Passenger Seat Harness Routing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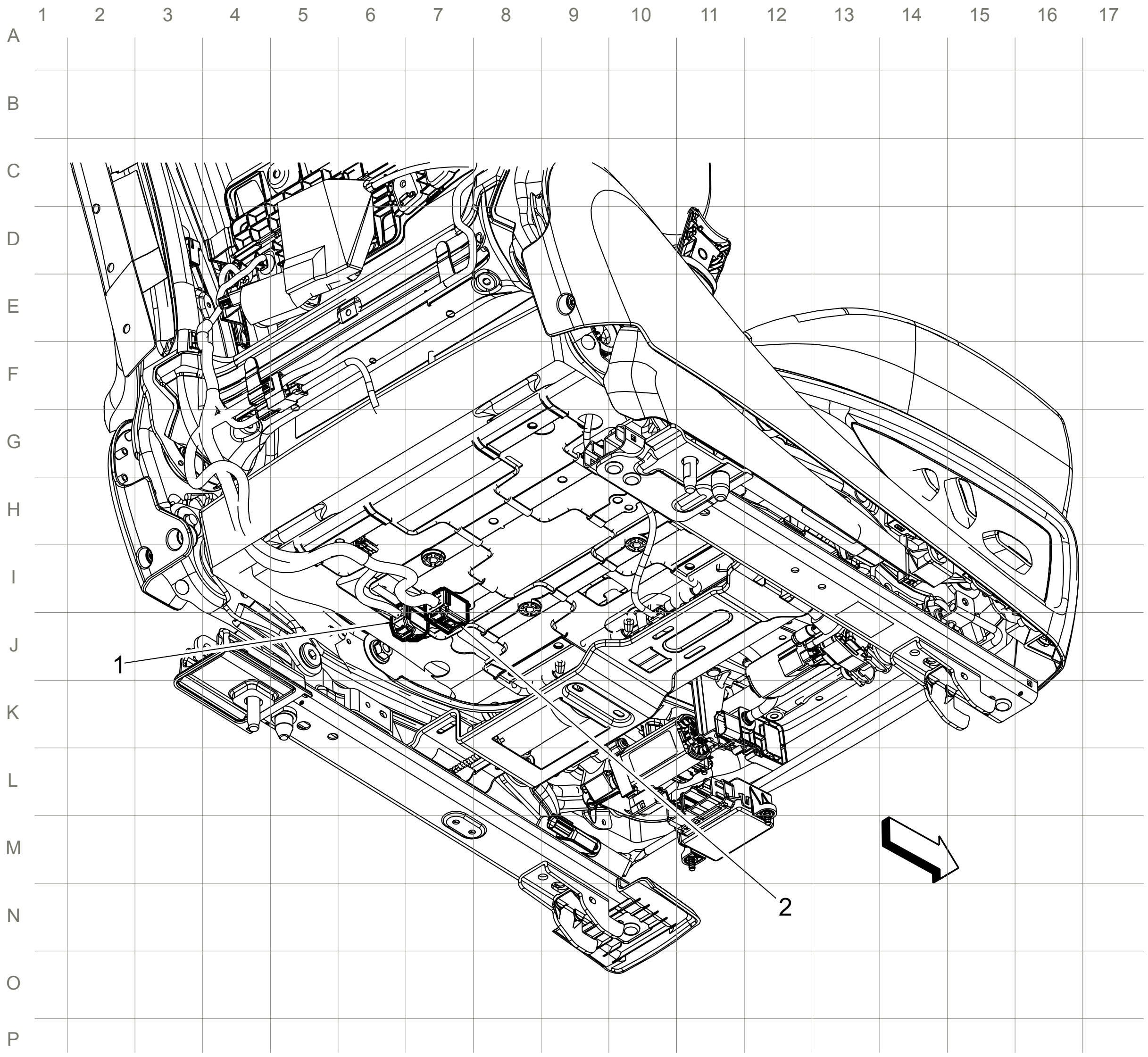
Items

1. X320
2. J323
3. J327
4. J326
5. J324
6. X322
7. X321

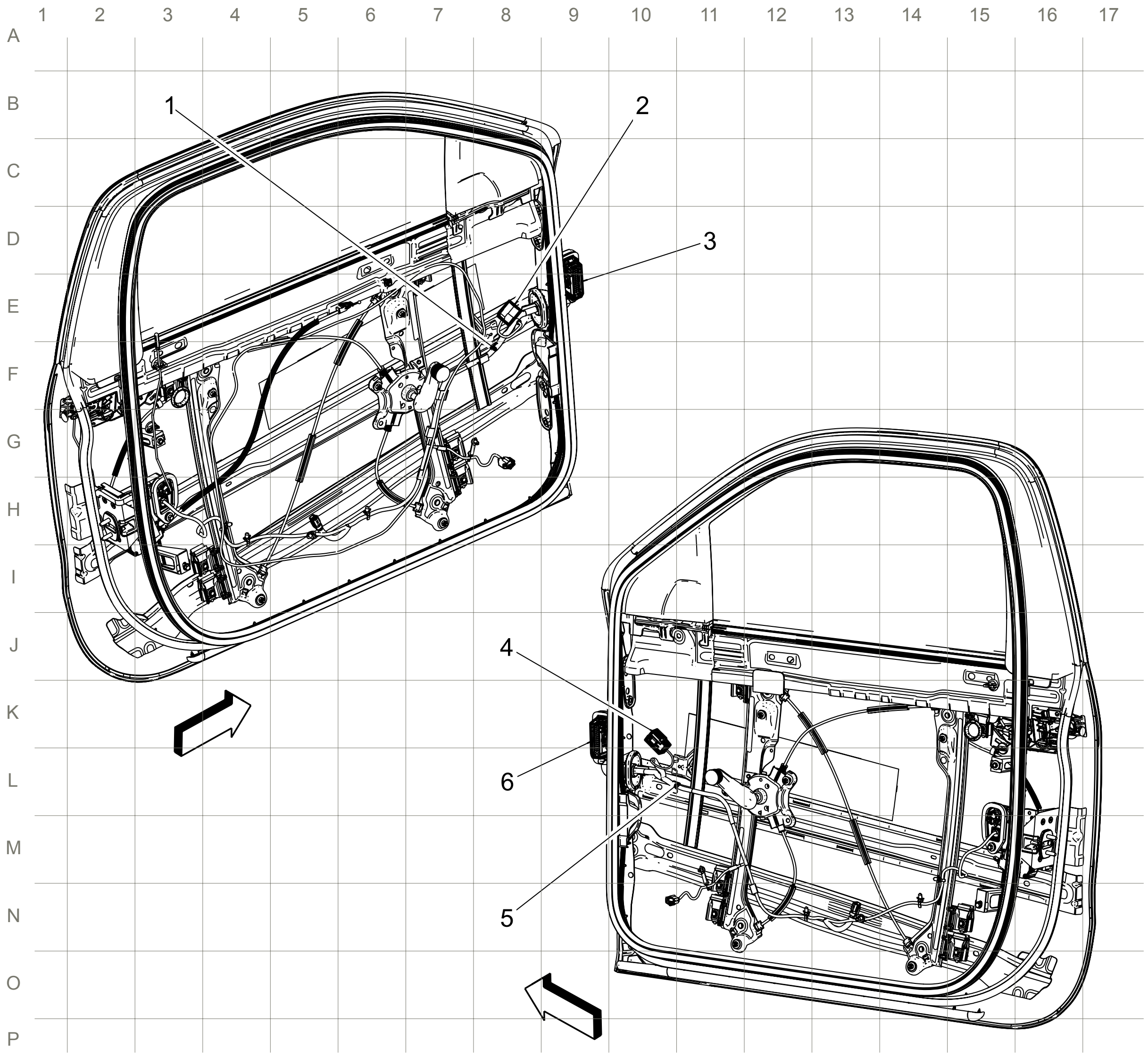
Back of Passenger Seat Harness Routing



Items

1. X322
2. X321

Doors (Regular Cab with Manual Windows) Harness Routing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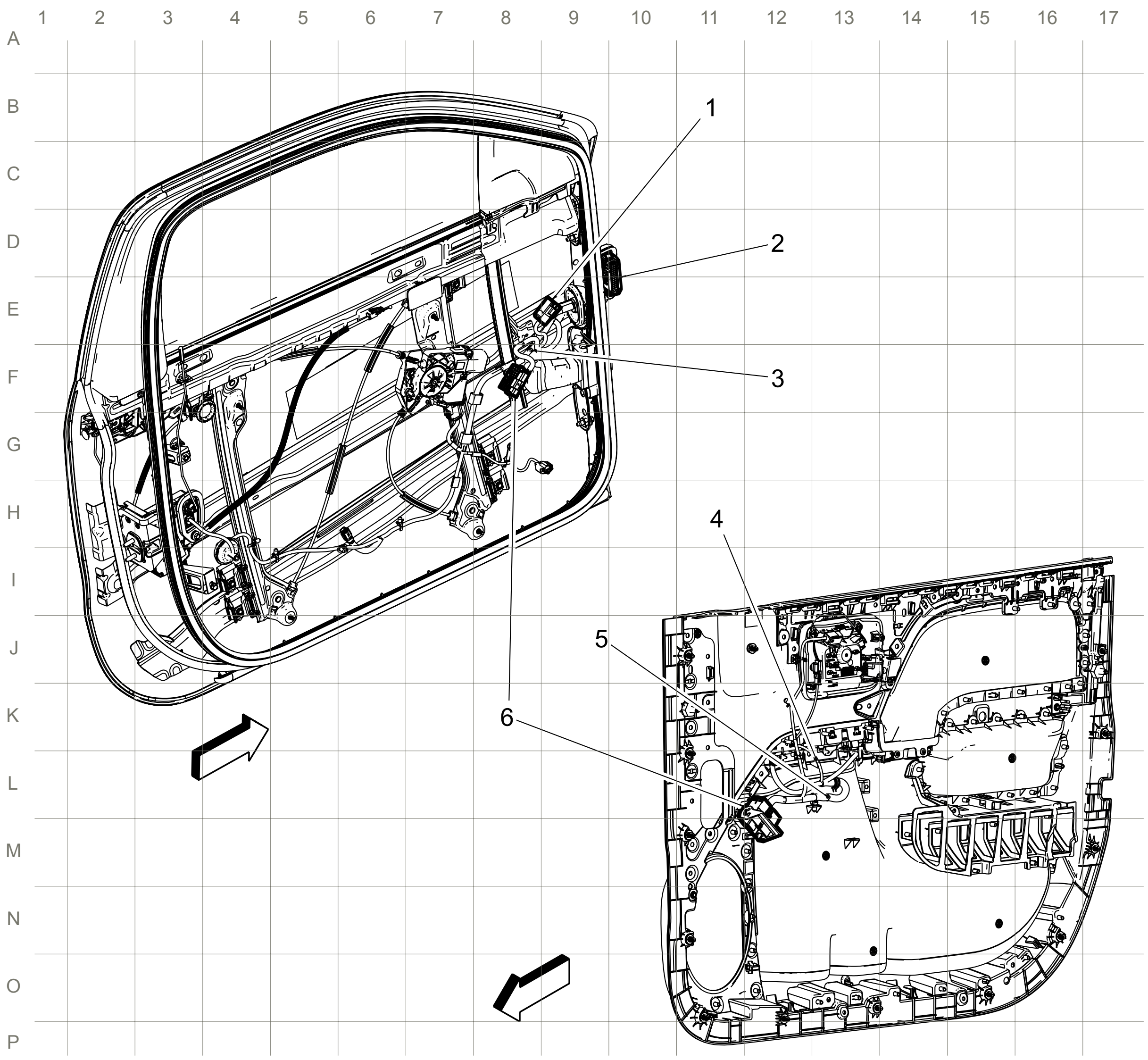
Items

1. J515
2. X506 (without A31)
3. X500
4. X606 (without A31)
5. J615
6. X600

Driver Door Harness Routing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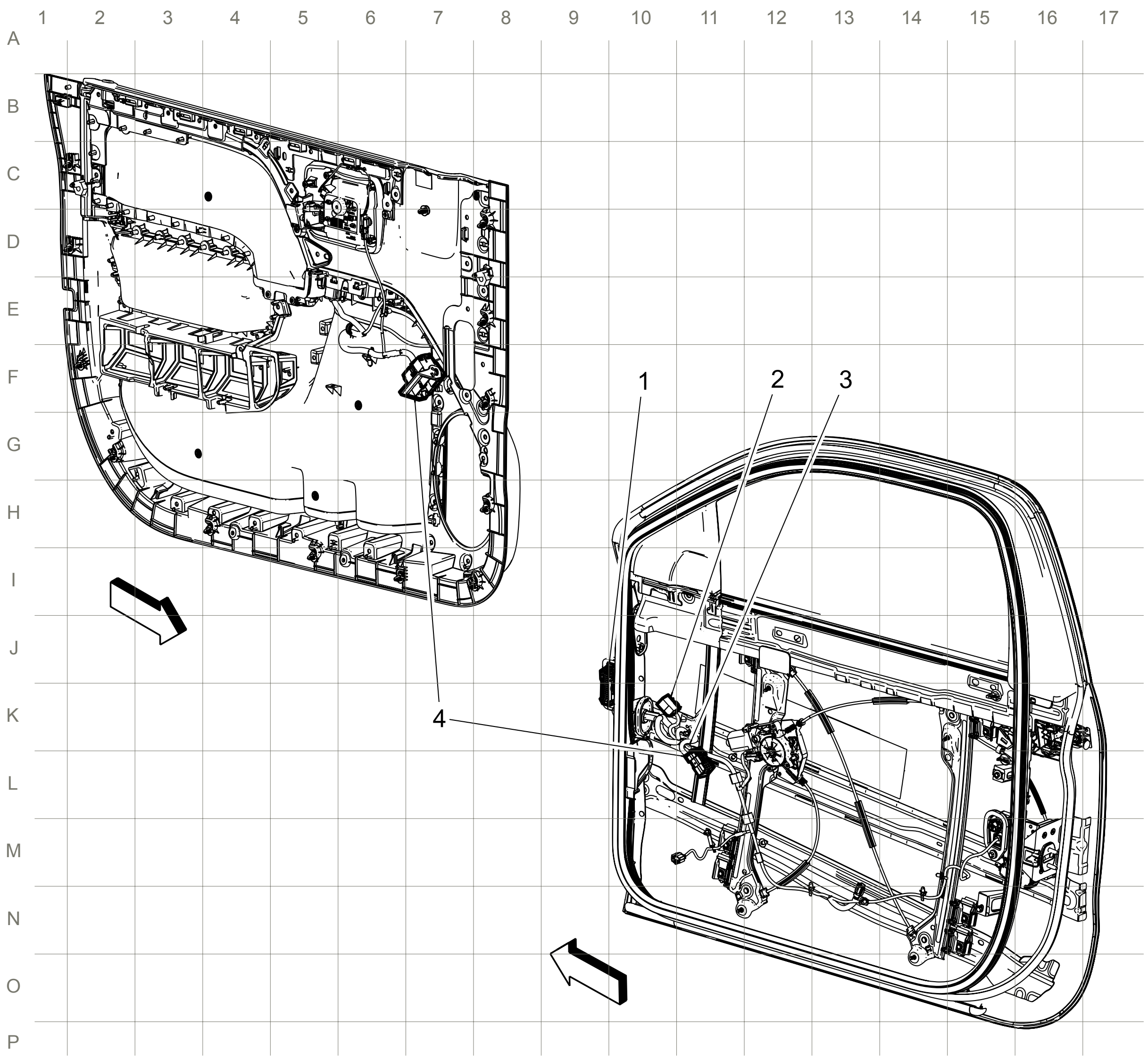
Items

1. X510 (DL3, DL8, DPN or DQS)
2. X500
3. J550
4. J515
5. J519
6. X505 (A31)

Passenger Door Harness Routing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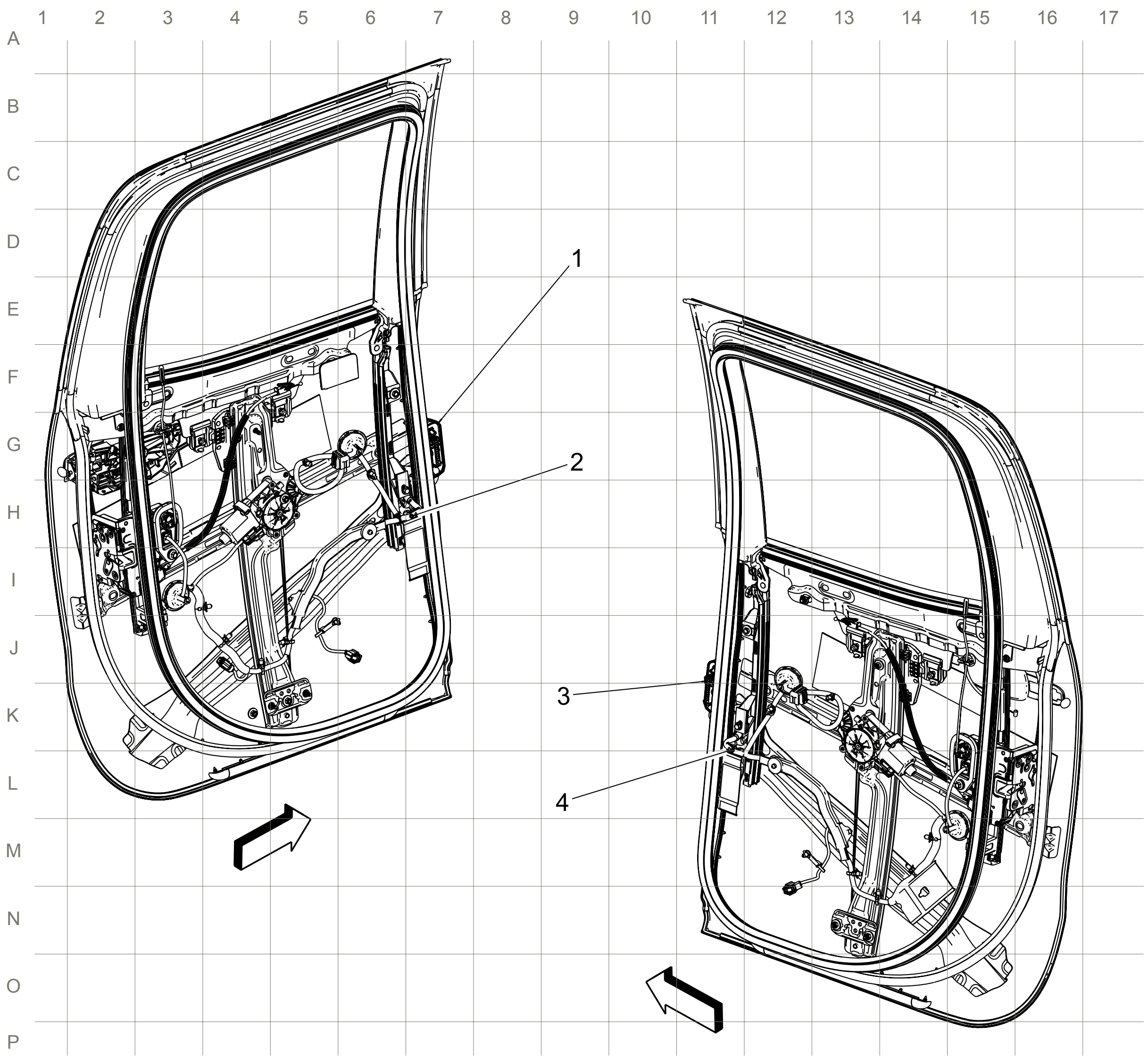
Items

1. X600
2. X610 (DL3, DL8, DPN or DQS)
3. J615
4. X605 (A31)

Rear Doors Harness Routing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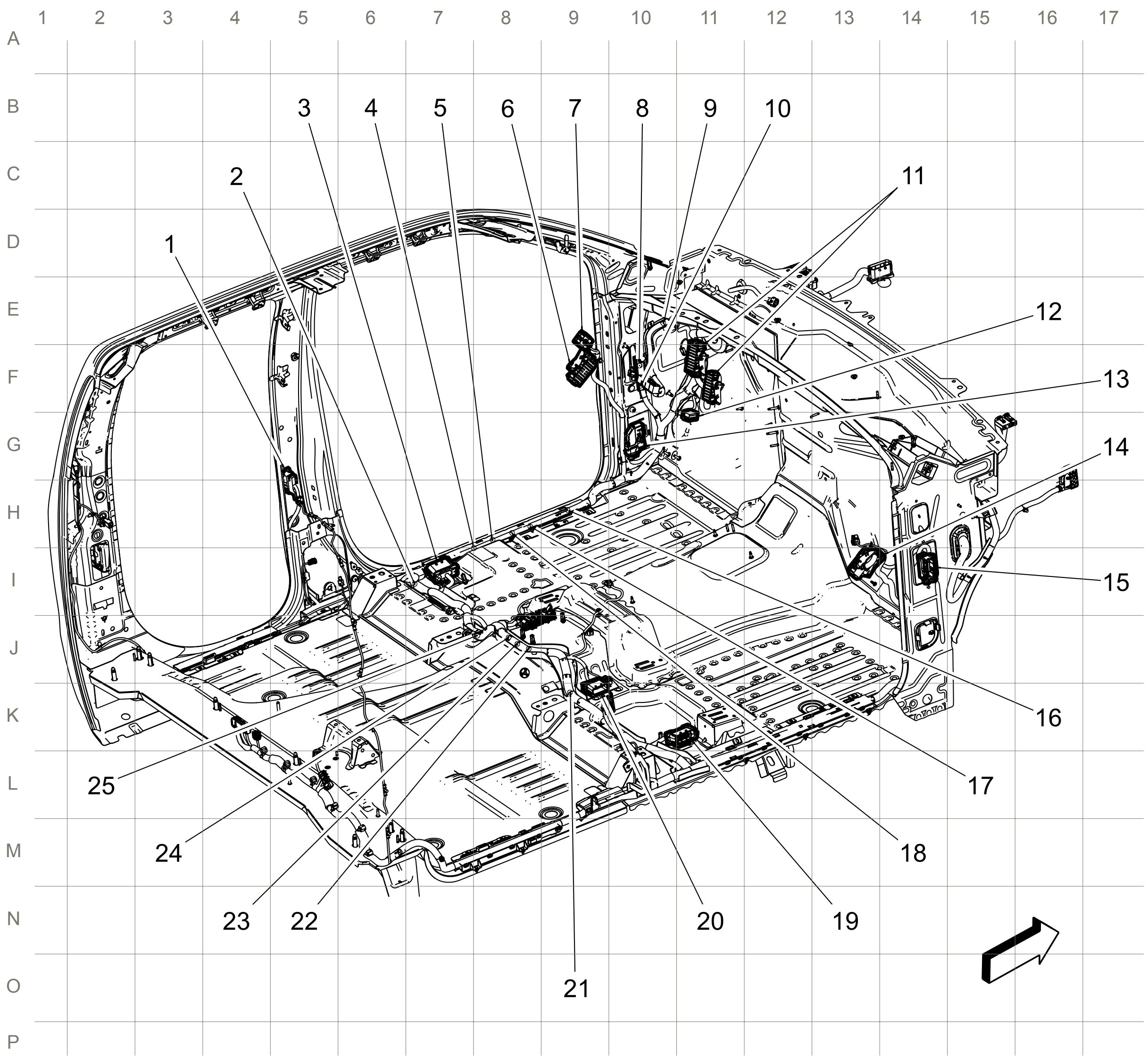
Items

1. X700 (Extended or Crew Cab)
2. J715
3. X800 (Extended or Crew Cab)
4. J815

Passenger Compartment Left Harness Routing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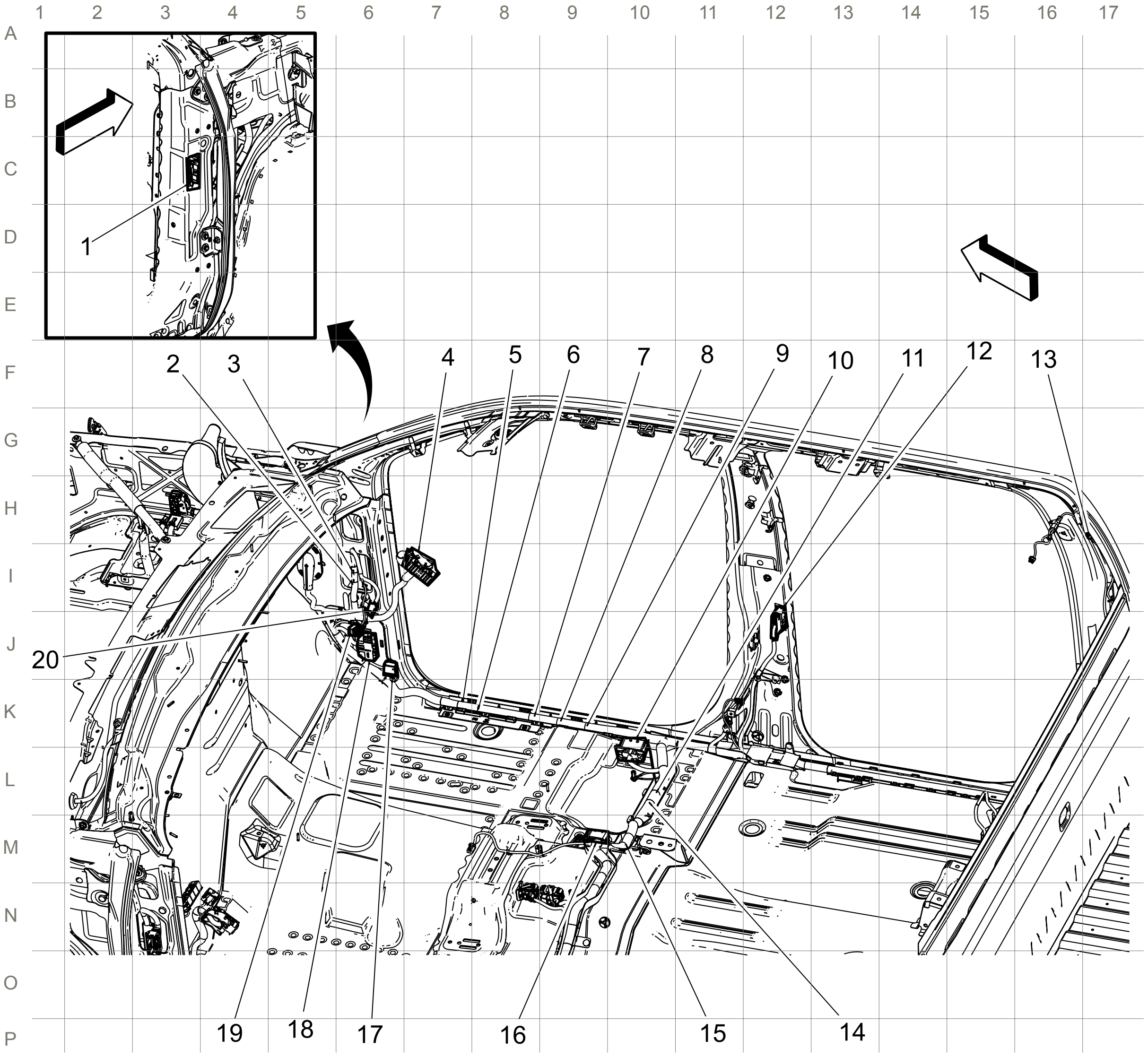
25

Items

1. X700 (Extended or Crew Cab)
2. J331
3. X310
4. J305
5. J306
6. X51L Fuse Block - Instrument Panel Left
7. X315
8. J201
9. J380
10. J202
11. X61A Junction Block - Instrument Panel (except E29)

11. X51A Junction Block - Instrument Panel (except L29)
12. X119
13. X225
14. X51R Fuse Block - Instrument Panel Right
15. X600
16. J307
17. J308
18. J309
19. X320
20. X314 (except D07)
21. J379
22. J383
23. J382
24. J361
25. J384

Passenger Compartment Right Harness Routing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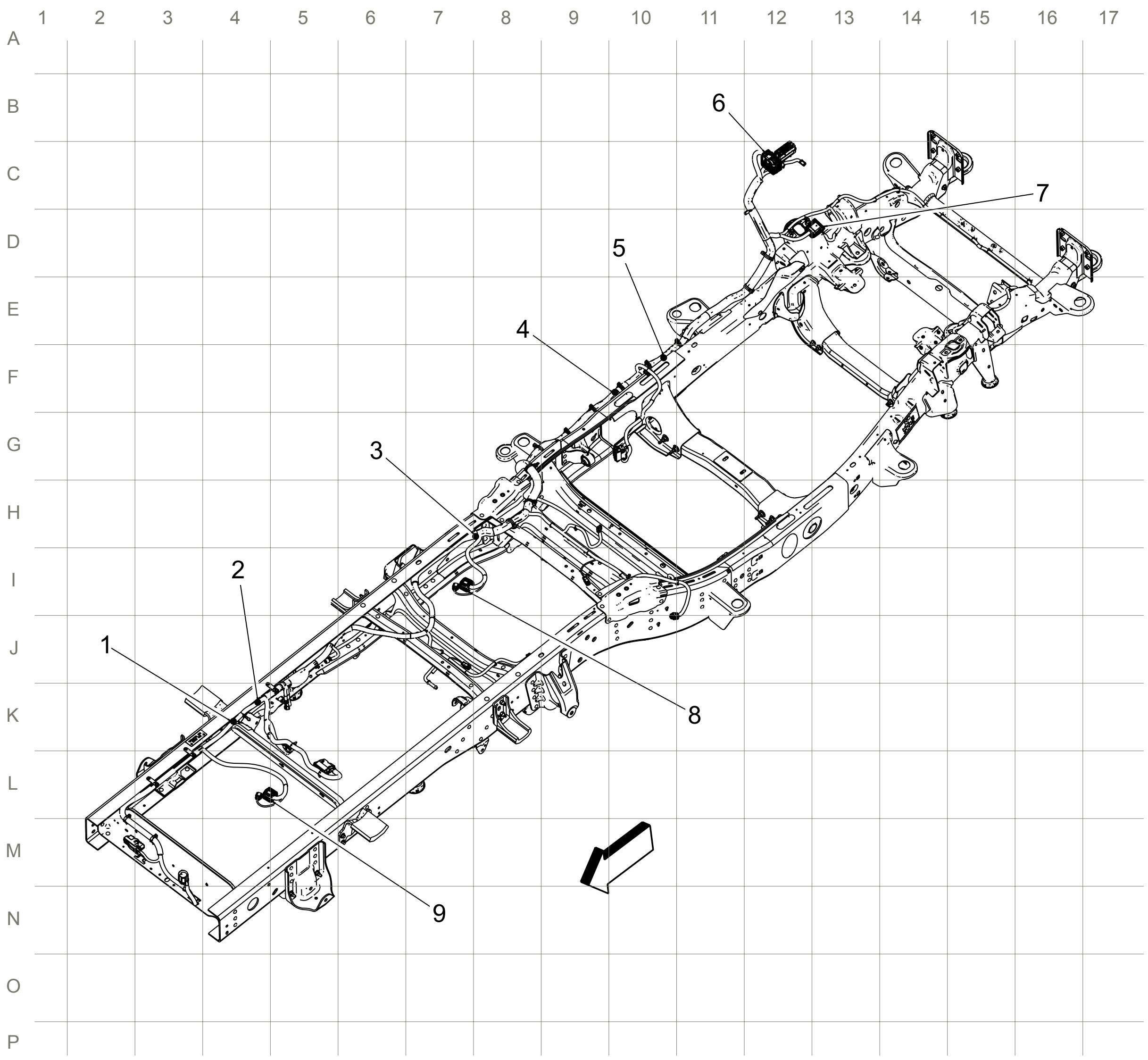
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K L M N O P

Items

1. X600
2. J298
3. J299
4. X51R Fuse Block - Instrument Panel Right
5. J367
6. J365
7. J362
8. J367
9. J360
10. X310
11. J372

11. J372
12. X800 (Extended or Crew Cab)
13. X390
14. J260
15. J350
16. X314 (except D07)
17. JX300
18. X275
19. X216
20. X217

Chassis Cab Harness Routing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G
H
I
J
K
L
M
N
O
P
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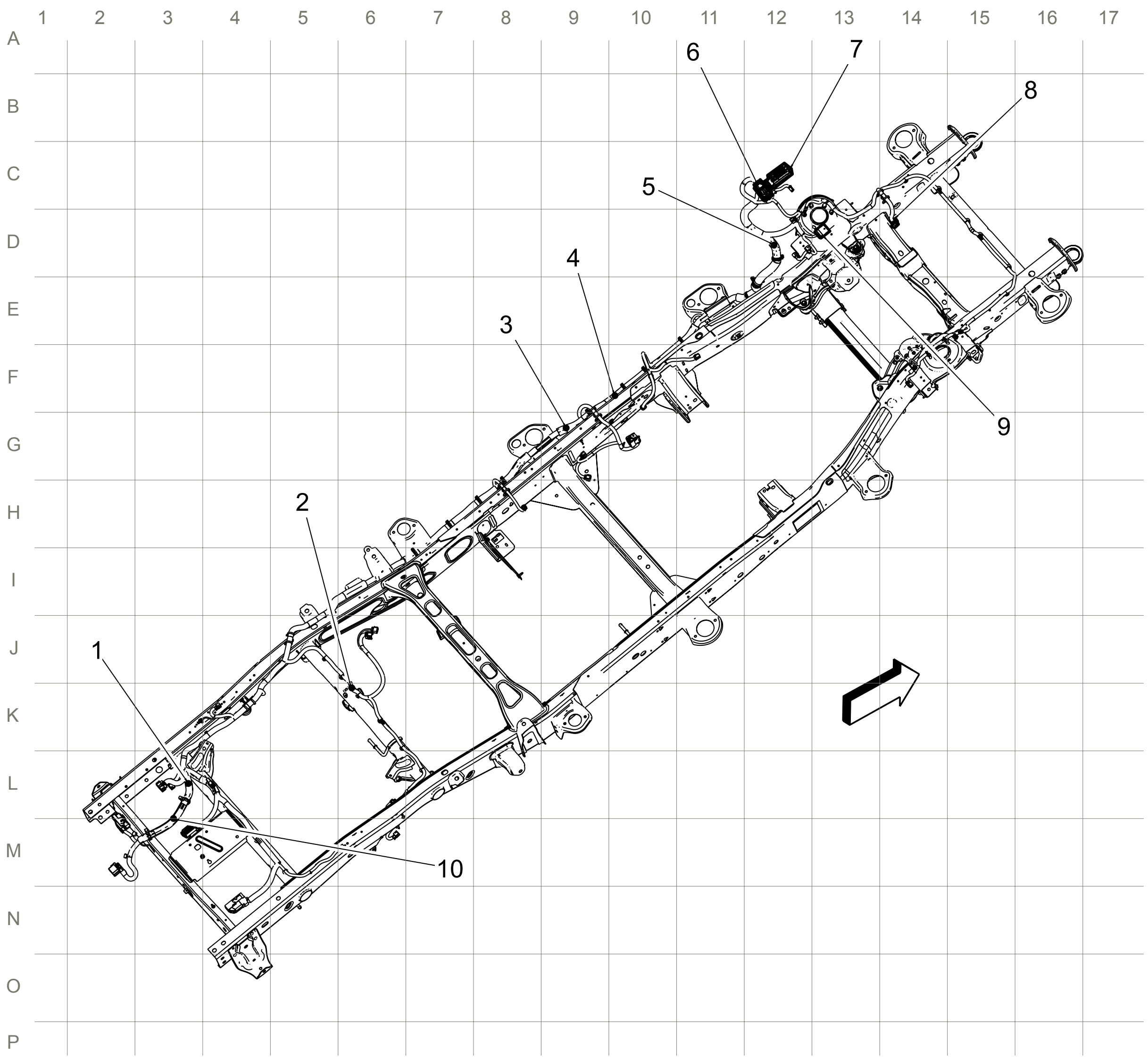
1
8
9

Items

1. J451
2. J450
3. J375
4. J356
5. J355
6. X185 (LC8)
7. X125
8. X350 (LC8)
9. X351 (U42)

Chassis Harness Routing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H
I
J
K
L
M
N
O
P
1
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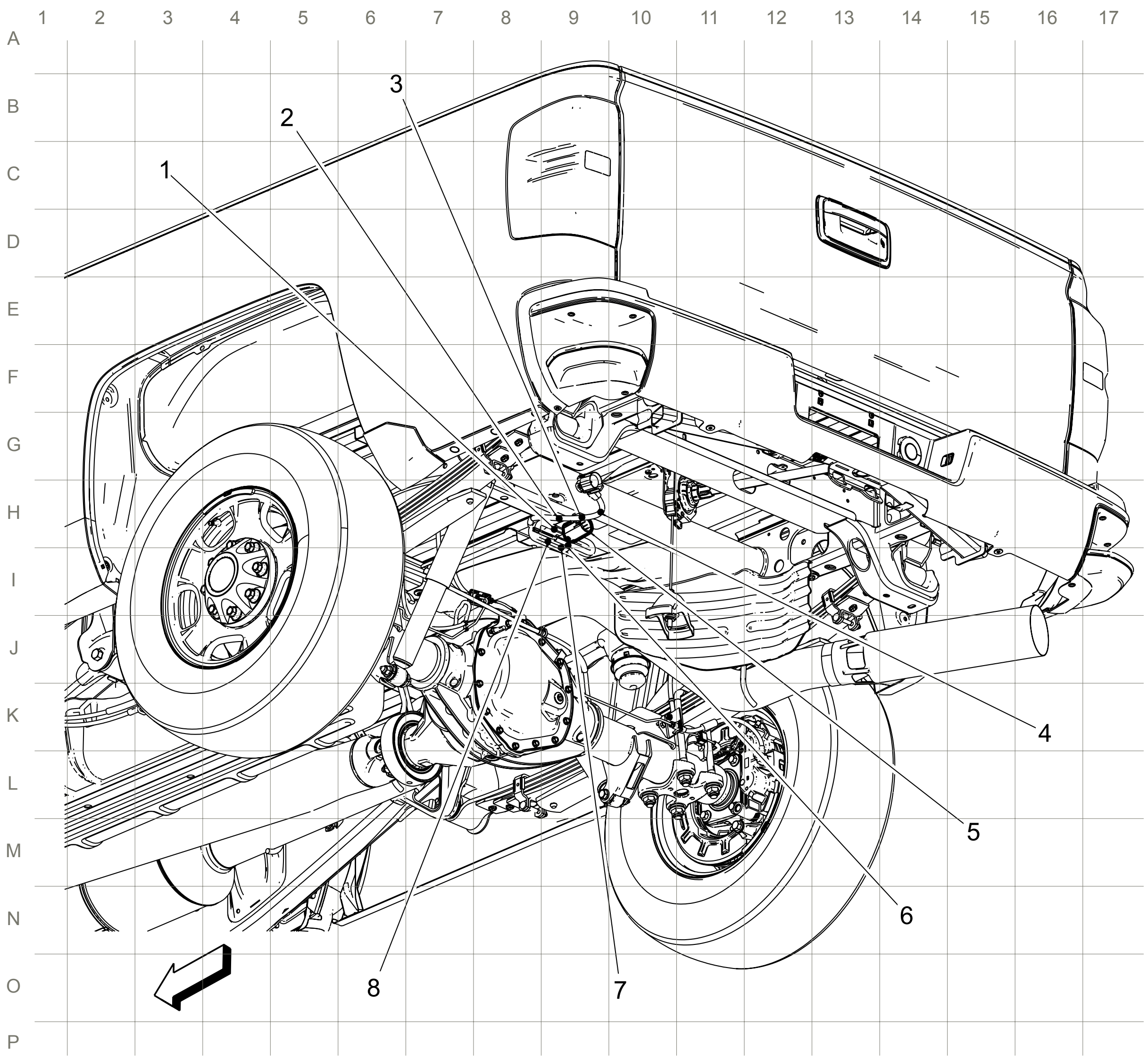
8
9
10

Items

1. J451
2. J375
3. J356
4. J355
5. J191
6. X185 (LC8)
7. X50A Fuse Block - Underhood
8. X182 (LC8)
9. X125
10. J450

Chassis Jumper Harness Routing (UY2)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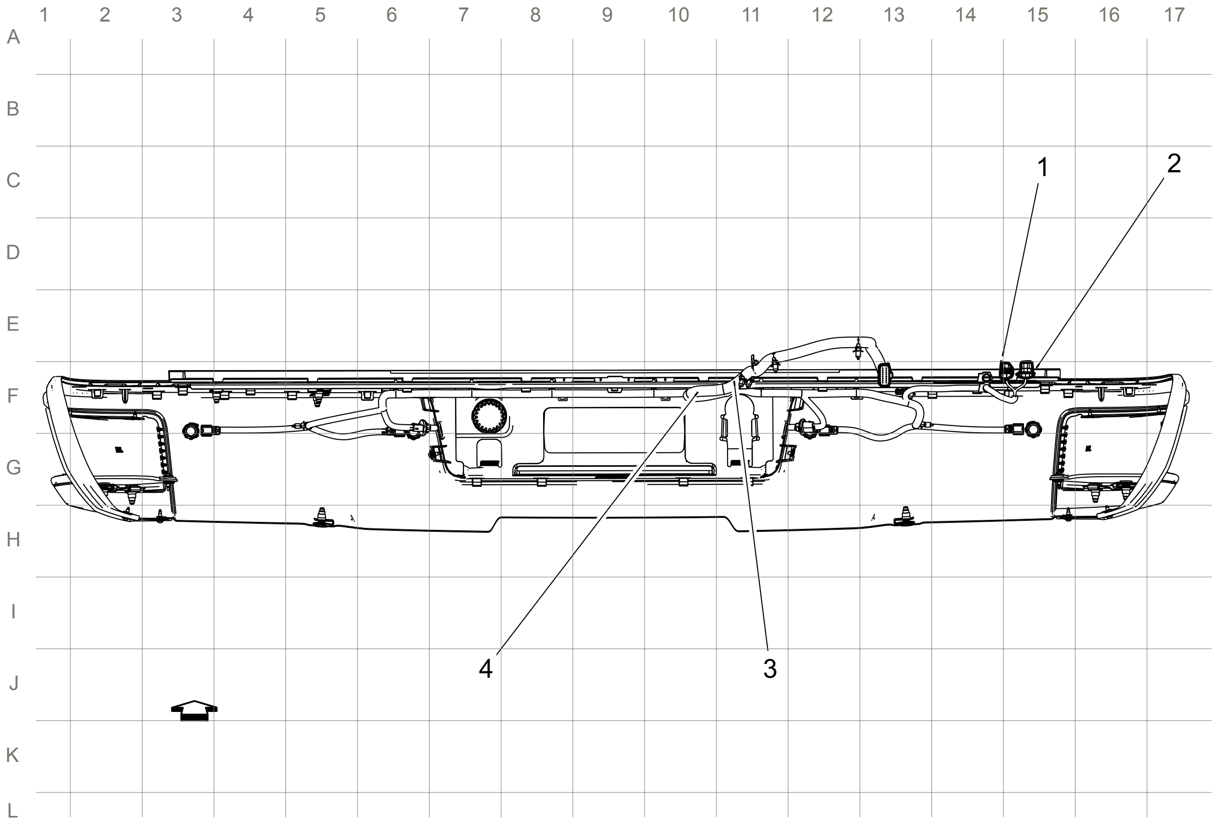
E
F
G
H
I
J
K
L
M
N
O
P
3
2
1
4
5
6
8
7

Items

1. J905
2. J907
3. J903
4. J906
5. X950 (8S3 or UY2)
6. J904
7. J902
8. J901

Rear Bumper Harness Routing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A
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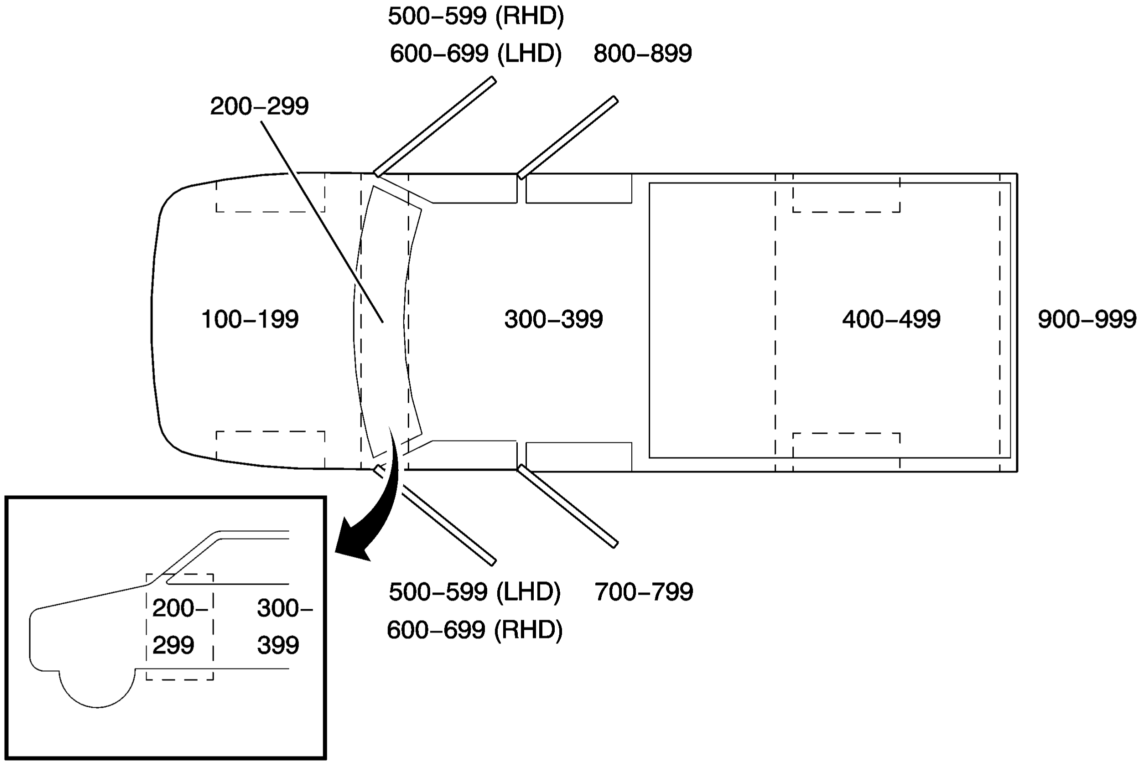
F
G
H
I
J
K
L
1
2
3
4

Items

1. X417
2. X416
3. J490
4. J495

Vehicle Zoning Strategy

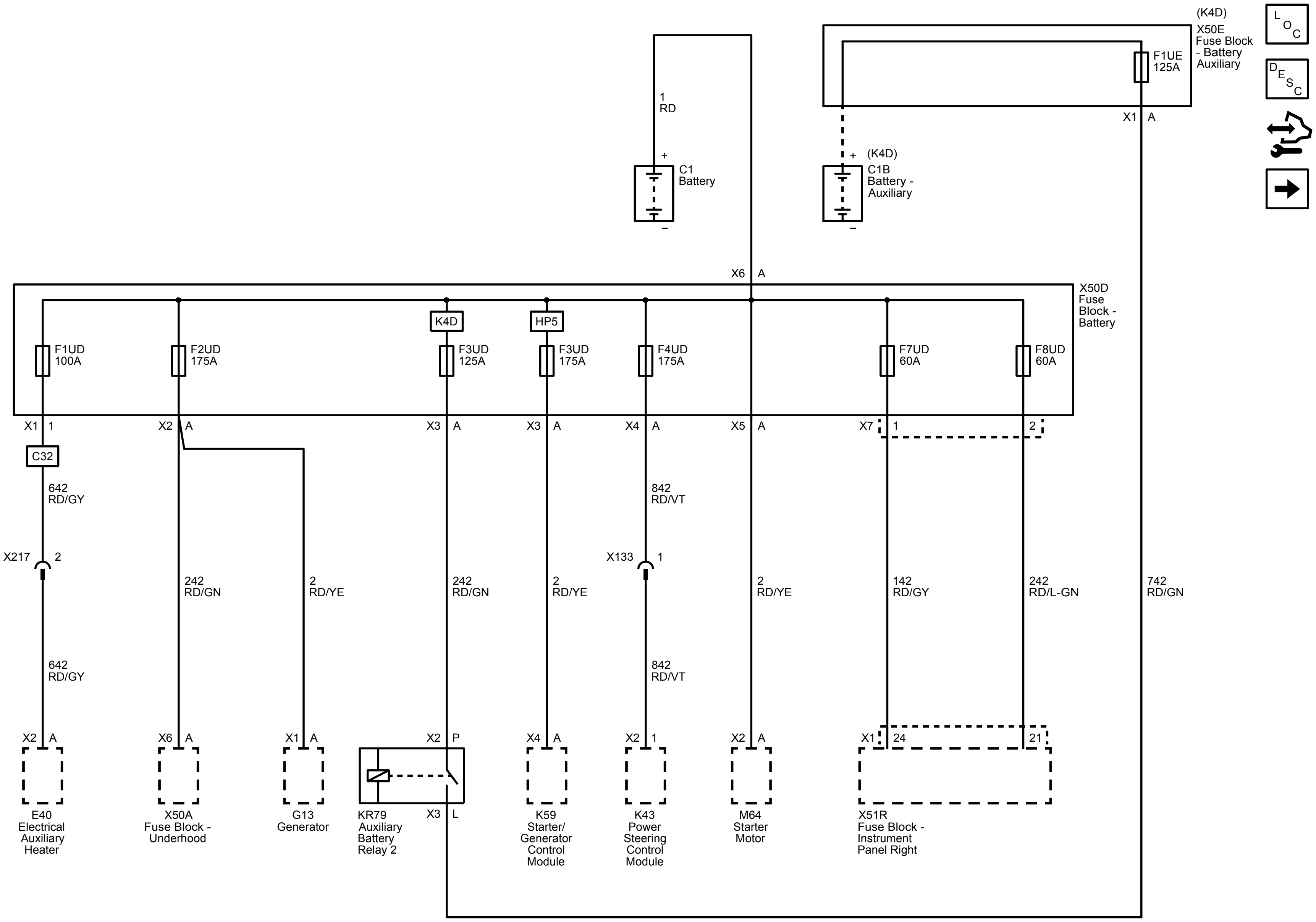
All grounds, in-line connectors, and splices have identifying numbers that correspond to where they are located in the vehicle. The following table explains the numbering system.



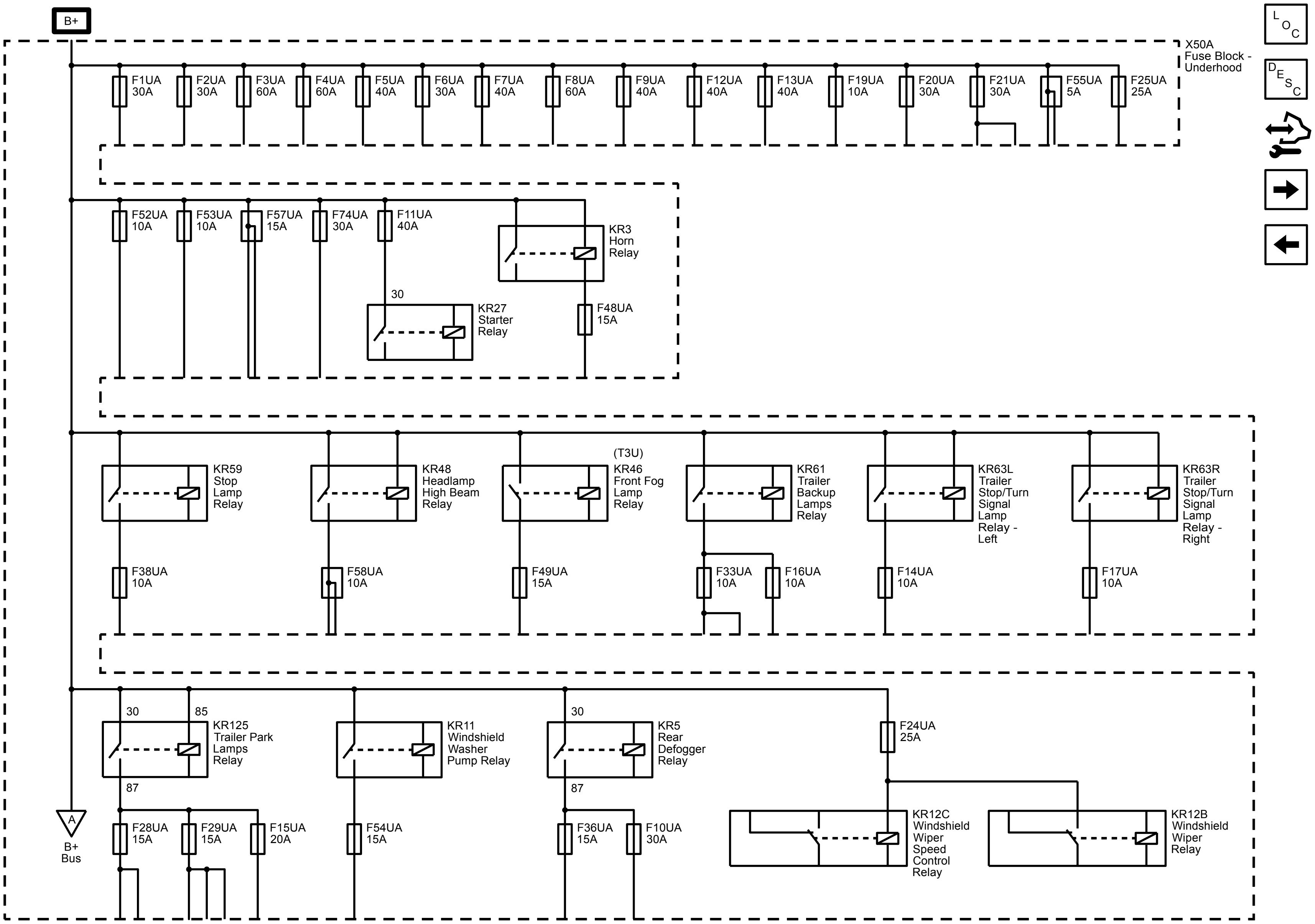
Vehicle Zoning Strategy

Callout Numbers	Zone Description
100-199	Engine compartment (all forward of the instrument panel)
200-299	Within the instrument panel area (between the bulkhead and the front plane of the instrument panel)
300-399	Passenger compartment (from the instrument panel to the rear of the cab)
400-499	Truck bed/chassis (from the rear of the cab to the rear of the vehicle)
500-599	Inline harness connectors to or within the driver door
600-699	Inline harness connectors to or within the front passenger door
700-799	Inline harness connectors to or within the left rear door
800-899	Inline harness connectors to or within the right rear door
900-999	Inline harness connectors to or within the endgate

X50D Fuse Block - Battery and X50E Fuse Block - Battery Auxiliary (1500)

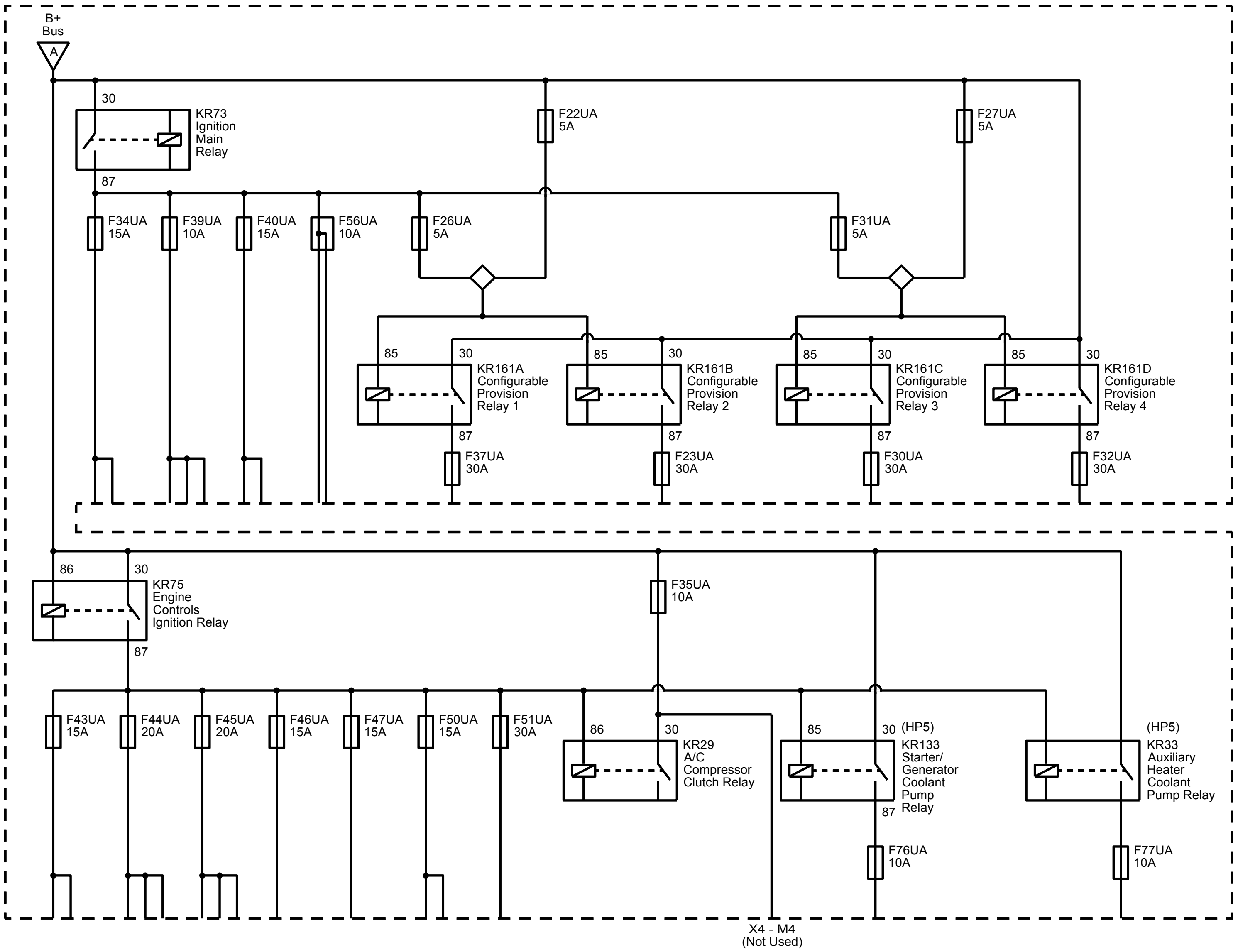

(K4D)
X50E
Fuse Block
- Battery
Auxiliary
F1UE
125A
X1
A
1
RD
+
C1
Battery
–
+
(K4D)
C1B
Battery -
Auxiliary
–
X6
A
X50D
Fuse
Block -
Battery
K4D
HP5
F1UD
100A
F2UD
175A
F3UD
125A
F3UD
175A
F4UD
175A
F7UD
60A
F8UD
60A
X1
1
X2
A
X3
A
X3
A
X4
A
X5
A
X7
1
2
C32
642
RD/GY
842
RD/VT
X217
2
X133
1
242
RD/GN
2
RD/YE
242
RD/GN
2
RD/YE
2
RD/YE
142
RD/GY
242
RD/L-GN
742
RD/GN
642
RD/GY
842
RD/VT
X2
A
X6
A
X1
A
X2
P
X4
A
X2
1
X2
A
X1
24
21
X3
L
E40
Electrical
Auxiliary
Heater
X50A
Fuse Block -
Underhood
G13
Generator
KR79
Auxiliary
Battery
Relay 2
K59
Starter/
Generator
Control
Module
K43
Power
Steering
Control
Module
M64
Starter
Motor
X51R
Fuse Block -
Instrument
Panel Right
LOC
DESC

B+ Bus X50A Fuse Block - Underhood 1 of 2 (1500)

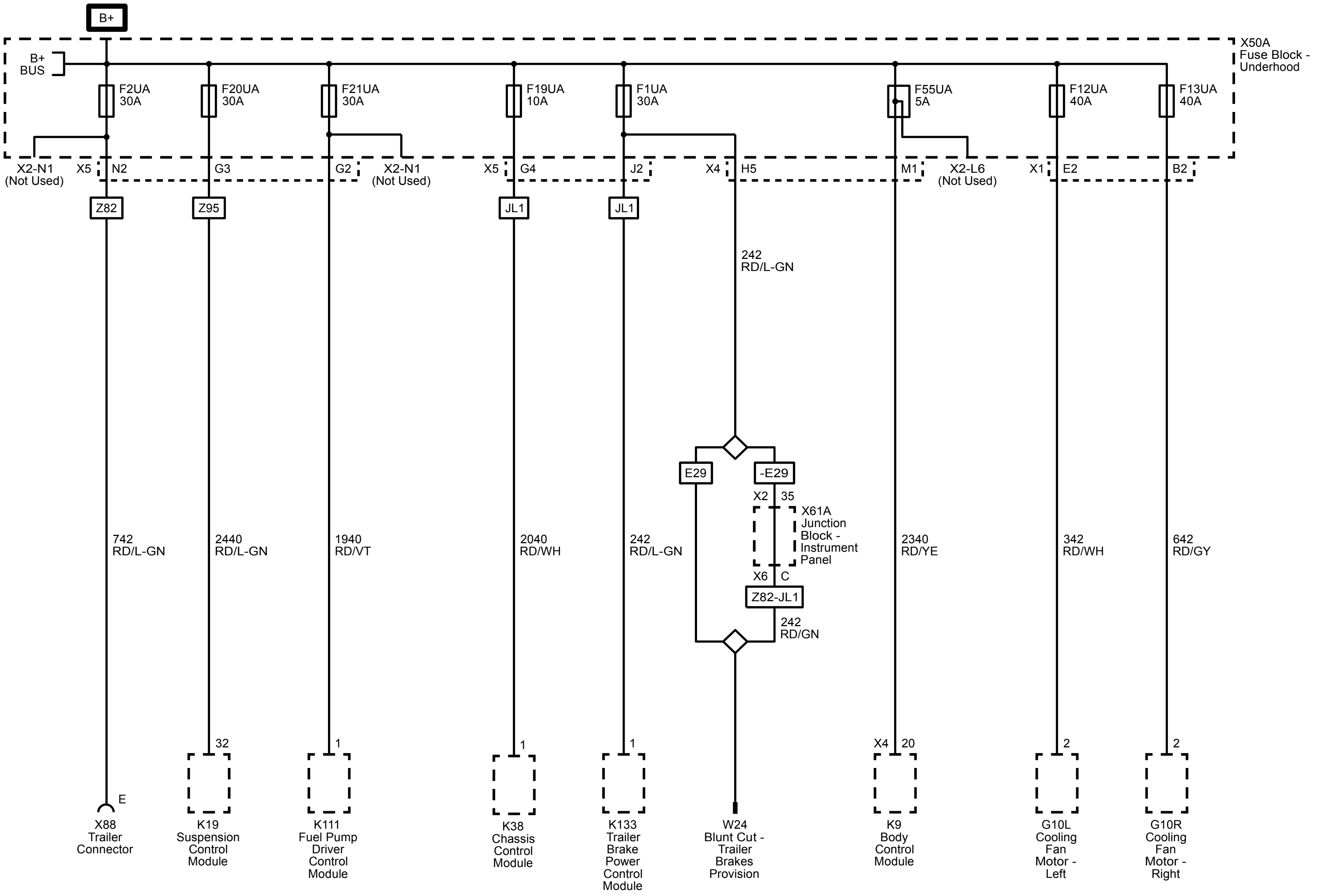

B+
X50A
Fuse Block -
Underhood
F1UA 30A
F2UA 30A
F3UA 60A
F4UA 60A
F5UA 40A
F6UA 30A
F7UA 40A
F8UA 60A
F9UA 40A
F12UA 40A
F13UA 40A
F19UA 10A
F20UA 30A
F21UA 30A
F55UA 5A
F25UA 25A
F52UA 10A
F53UA 10A
F57UA 15A
F74UA 30A
F11UA 40A
KR3 Horn Relay
30
KR27 Starter Relay
F48UA 15A
KR59 Stop Lamp Relay
KR48 Headlamp High Beam Relay
(T3U)
KR46 Front Fog Lamp Relay
KR61 Trailer Backup Lamps Relay
KR63L Trailer Stop/Turn Signal Lamp Relay - Left
KR63R Trailer Stop/Turn Signal Lamp Relay - Right
F38UA 10A
F58UA 10A
F49UA 15A
F33UA 10A
F16UA 10A
F14UA 10A
F17UA 10A
30
85
KR125 Trailer Park Lamps Relay
87
KR11 Windshield Washer Pump Relay
30
KR5 Rear Defogger Relay
87
F24UA 25A
A
B+ Bus
F28UA 15A
F29UA 15A
F15UA 20A
F54UA 15A
F36UA 15A
F10UA 30A
KR12C Windshield Wiper Speed Control Relay
KR12B Windshield Wiper Relay
LOC
DESC

B+ Bus X50A Fuse Block - Underhood 2 of 2 (1500)

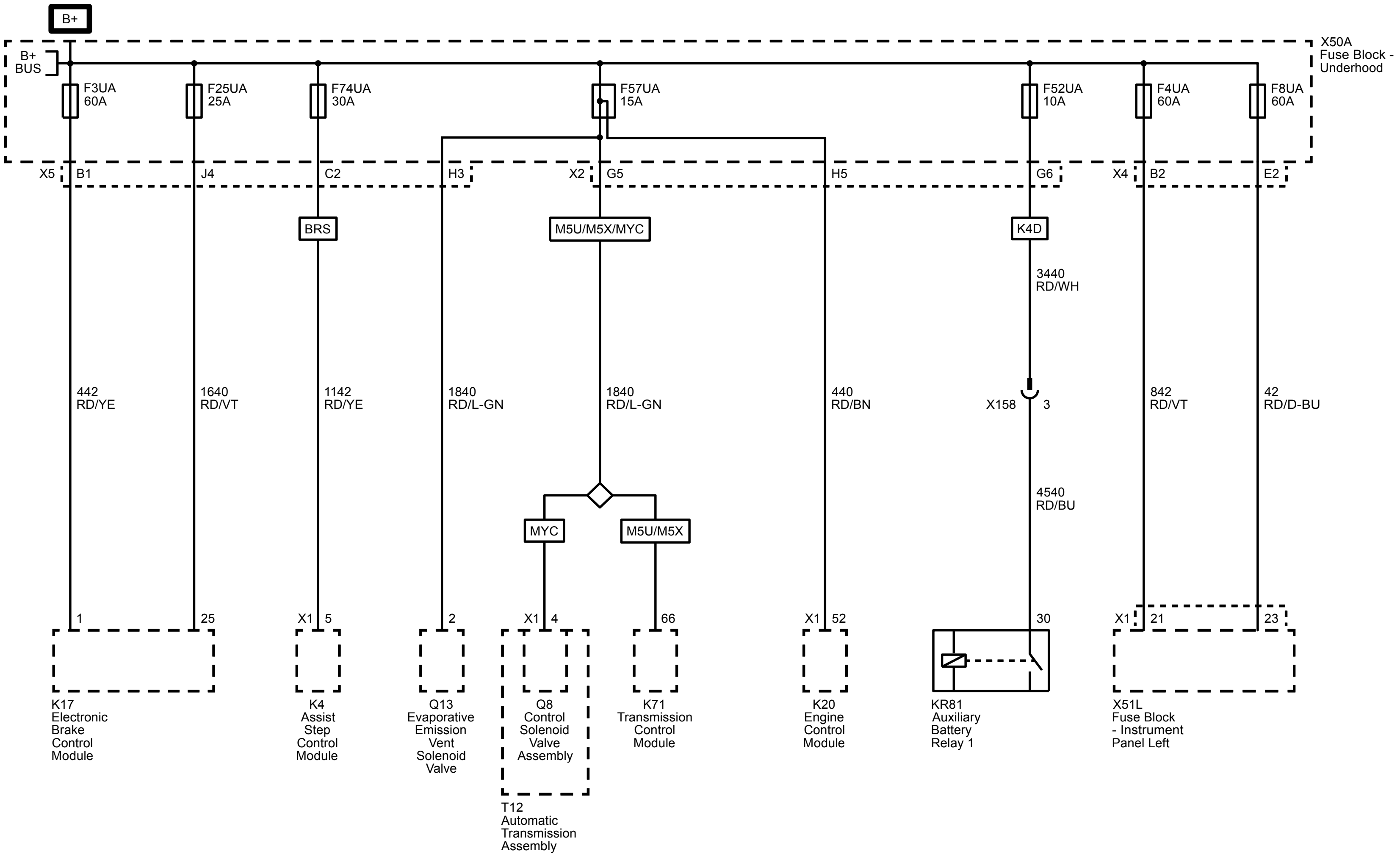
X50A
Fuse Block -
Underhood


B+
Bus
A
30
KR73
Ignition
Main
Relay
87
F22UA
5A
F27UA
5A
F34UA
15A
F39UA
10A
F40UA
15A
F56UA
10A
F26UA
5A
F31UA
5A
85
30
KR161A
Configurable
Provision
Relay 1
87
F37UA
30A
85
30
KR161B
Configurable
Provision
Relay 2
87
F23UA
30A
85
30
KR161C
Configurable
Provision
Relay 3
87
F30UA
30A
85
30
KR161D
Configurable
Provision
Relay 4
87
F32UA
30A
86
30
KR75
Engine
Controls
Ignition Relay
87
F35UA
10A
F43UA
15A
F44UA
20A
F45UA
20A
F46UA
15A
F47UA
15A
F50UA
15A
F51UA
30A
86
30
KR29
A/C
Compressor
Clutch Relay
85
30 (HP5)
KR133
Starter/
Generator
Coolant
Pump
Relay
87
F76UA
10A
(HP5)
KR33
Auxiliary
Heater
Coolant
Pump Relay
F77UA
10A
X4 - M4
(Not Used)

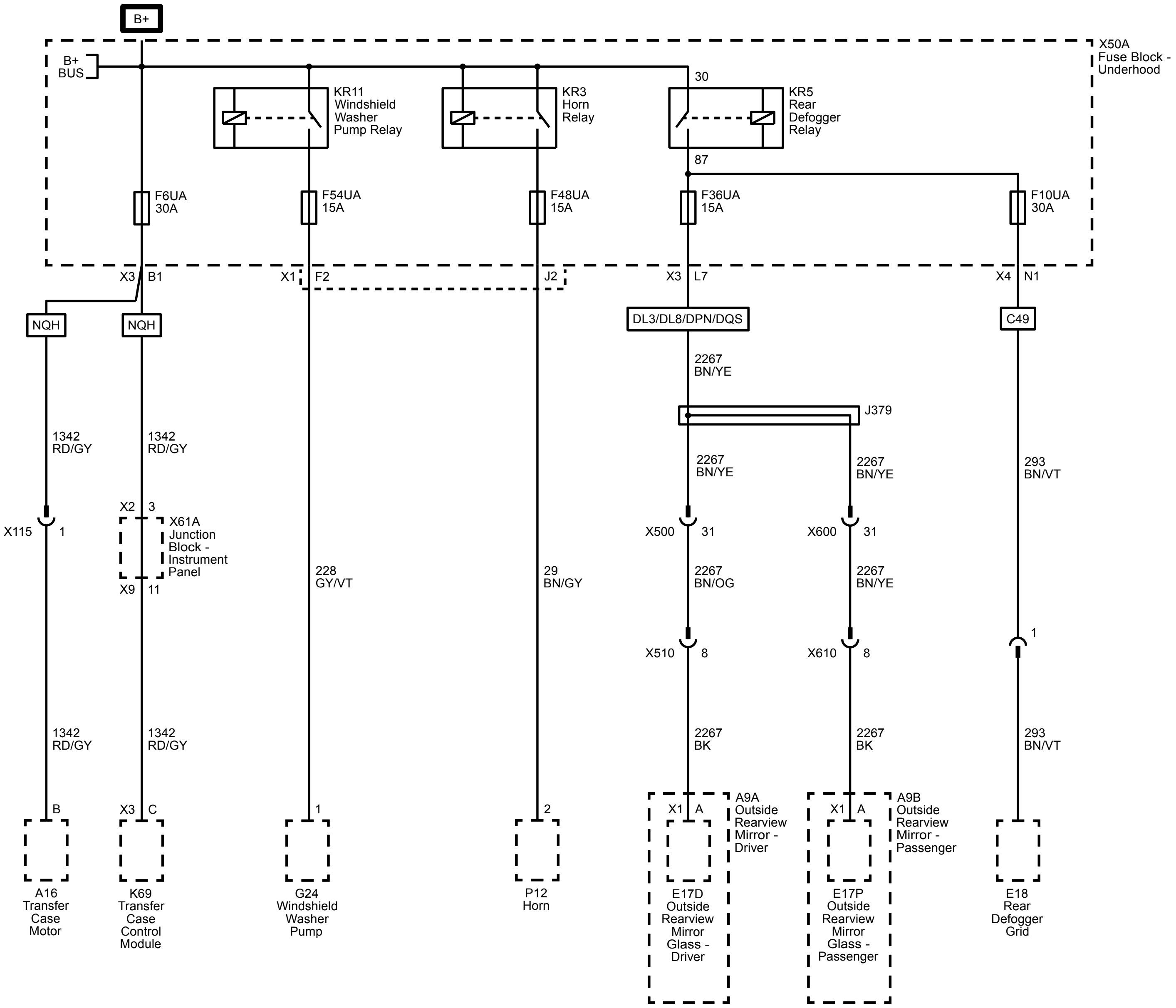
F1UA, F2UA, F12UA, F13UA, F19UA, F20UA, F21UA and F55UA Fuses (1500)


B+
B+
BUS
X50A
Fuse Block -
Underhood
F2UA
30A
F20UA
30A
F21UA
30A
F19UA
10A
F1UA
30A
F55UA
5A
F12UA
40A
F13UA
40A
X2-N1
(Not Used)
X5
N2
G3
G2
X2-N1
(Not Used)
X5
G4
J2
X4
H5
M1
X2-L6
(Not Used)
X1
E2
B2
Z82
Z95
JL1
JL1
242
RD/L-GN
E29
-E29
X2
35
X61A
Junction
Block -
Instrument
Panel
X6
C
Z82-JL1
242
RD/GN
742
RD/L-GN
2440
RD/L-GN
1940
RD/VT
2040
RD/WH
242
RD/L-GN
2340
RD/YE
342
RD/WH
642
RD/GY
32
1
1
1
X4
20
2
2
E
X88
Trailer
Connector
K19
Suspension
Control
Module
K111
Fuel Pump
Driver
Control
Module
K38
Chassis
Control
Module
K133
Trailer
Brake
Power
Control
Module
W24
Blunt Cut -
Trailer
Brakes
Provision
K9
Body
Control
Module
G10L
Cooling
Fan
Motor -
Left
G10R
Cooling
Fan
Motor -
Right

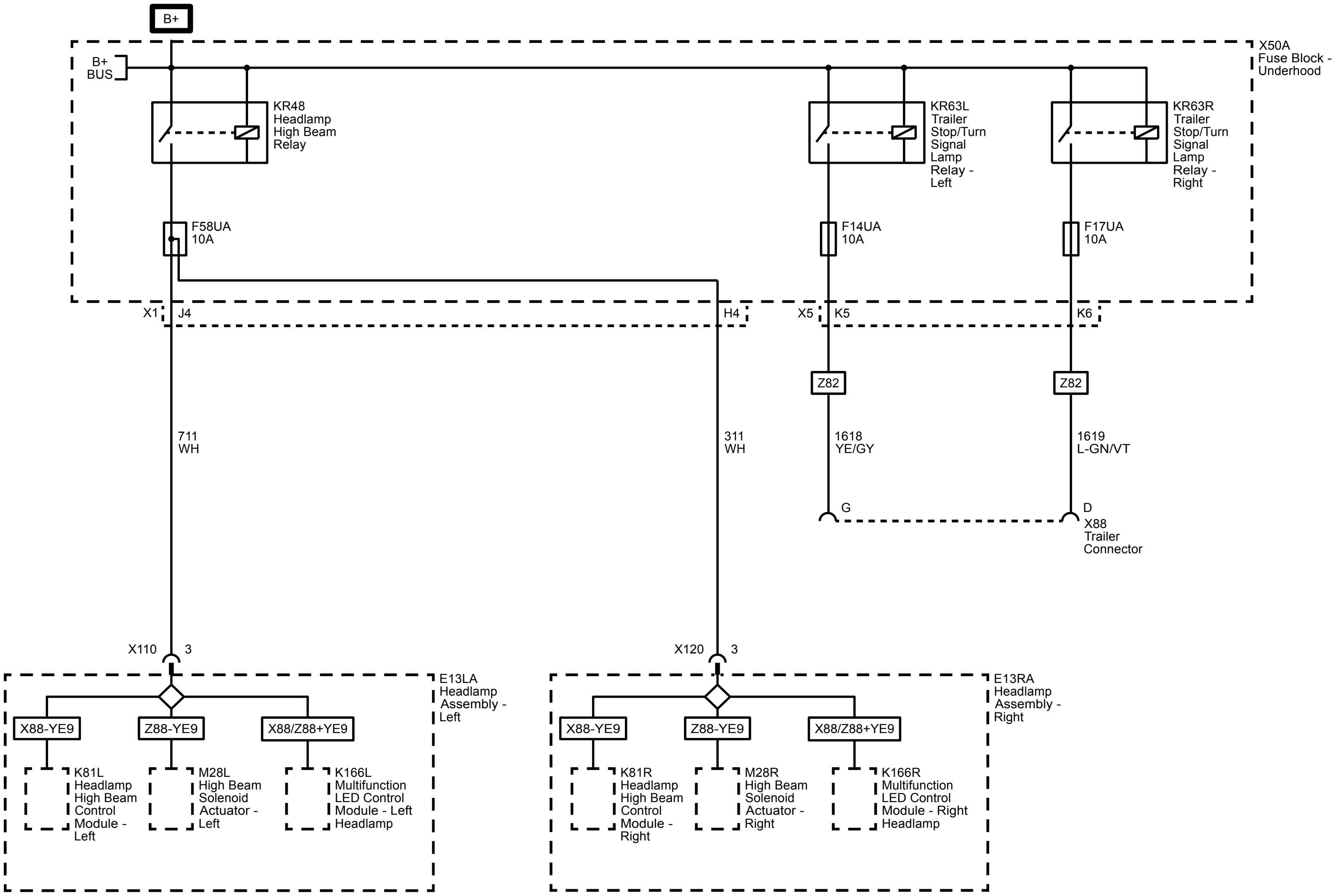
F3UA, F4UA, F8UA, F25UA, F52UA, F57UA, and F74UA Fuses (1500)


B+
B+ BUS
X50A Fuse Block - Underhood
F3UA 60A
F25UA 25A
F74UA 30A
F57UA 15A
F52UA 10A
F4UA 60A
F8UA 60A
X5
B1
J4
C2
H3
X2
G5
H5
G6
X4
B2
E2
BRS
M5U/M5X/MYC
K4D
3440 RD/WH
442 RD/YE
1640 RD/VT
1142 RD/YE
1840 RD/L-GN
1840 RD/L-GN
440 RD/BN
X158
3
842 RD/VT
42 RD/D-BU
4540 RD/BU
MYC
M5U/M5X
1
25
X1 5
2
X1 4
66
X1 52
30
X1 21
23
K17 Electronic Brake Control Module
K4 Assist Step Control Module
Q13 Evaporative Emission Vent Solenoid Valve
Q8 Control Solenoid Valve Assembly
T12 Automatic Transmission Assembly
K71 Transmission Control Module
K20 Engine Control Module
KR81 Auxiliary Battery Relay 1
X51L Fuse Block - Instrument Panel Left

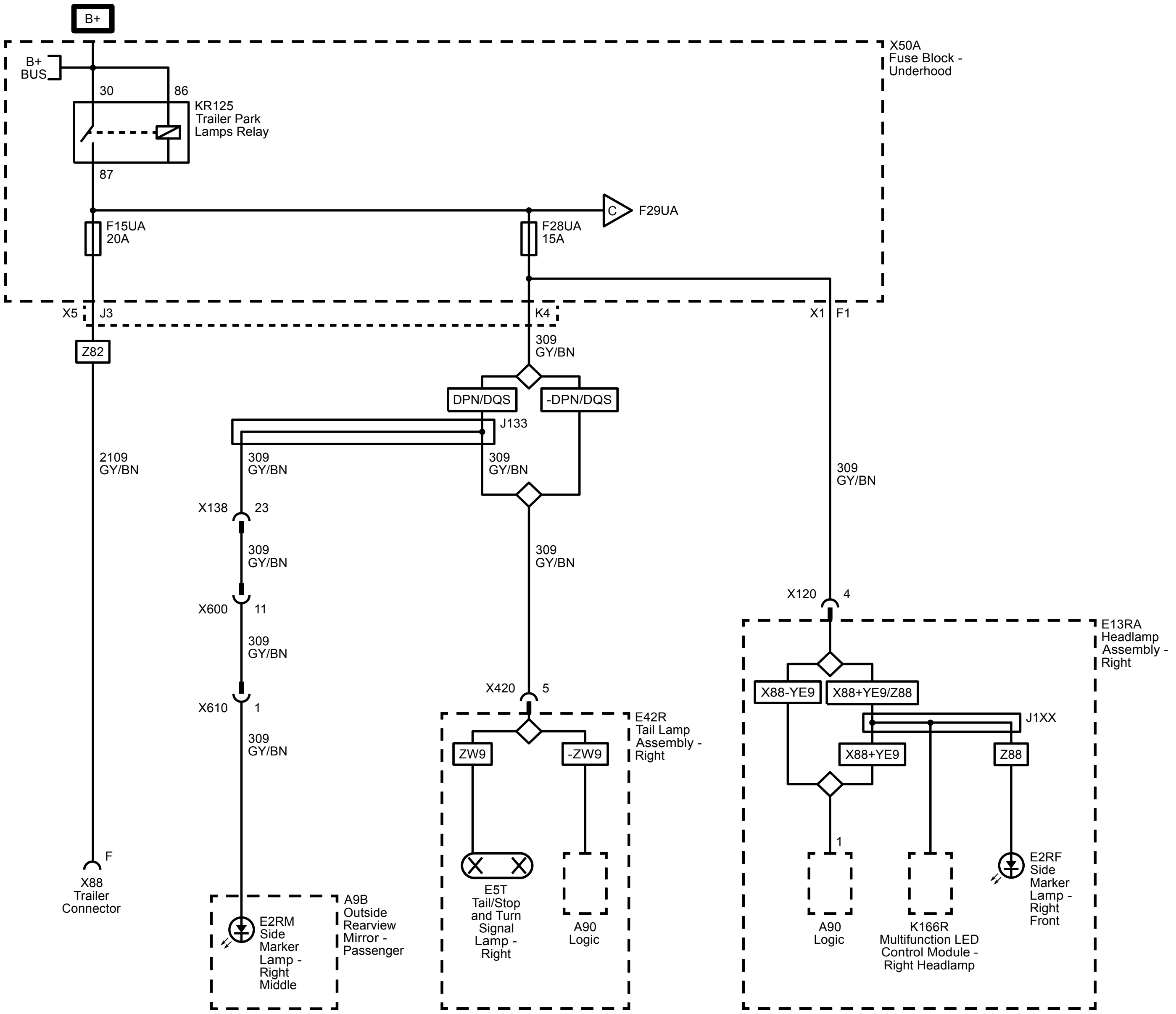
F6UA, F10UA, F36UA, F48UA and F54UA Fuses (1500)


B+
B+ BUS
X50A Fuse Block - Underhood
KR11 Windshield Washer Pump Relay
KR3 Horn Relay
30
KR5 Rear Defogger Relay
87
F6UA 30A
F54UA 15A
F48UA 15A
F36UA 15A
F10UA 30A
X3
B1
X1
F2
J2
X3
L7
X4
N1
NQH
NQH
DL3/DL8/DPN/DQS
C49
2267 BN/YE
J379
1342 RD/GY
1342 RD/GY
2267 BN/YE
2267 BN/YE
293 BN/VT
X2
3
X115
1
X61A Junction Block - Instrument Panel
X500
31
X600
31
X9
11
228 GY/VT
29 BN/GY
2267 BN/OG
2267 BN/YE
1
X510
8
X610
8
1342 RD/GY
1342 RD/GY
2267 BK
2267 BK
293 BN/VT
B
X3
C
1
2
X1
A
A9A Outside Rearview Mirror - Driver
X1
A
A9B Outside Rearview Mirror - Passenger
A16 Transfer Case Motor
K69 Transfer Case Control Module
G24 Windshield Washer Pump
P12 Horn
E17D Outside Rearview Mirror Glass - Driver
E17P Outside Rearview Mirror Glass - Passenger
E18 Rear Defogger Grid

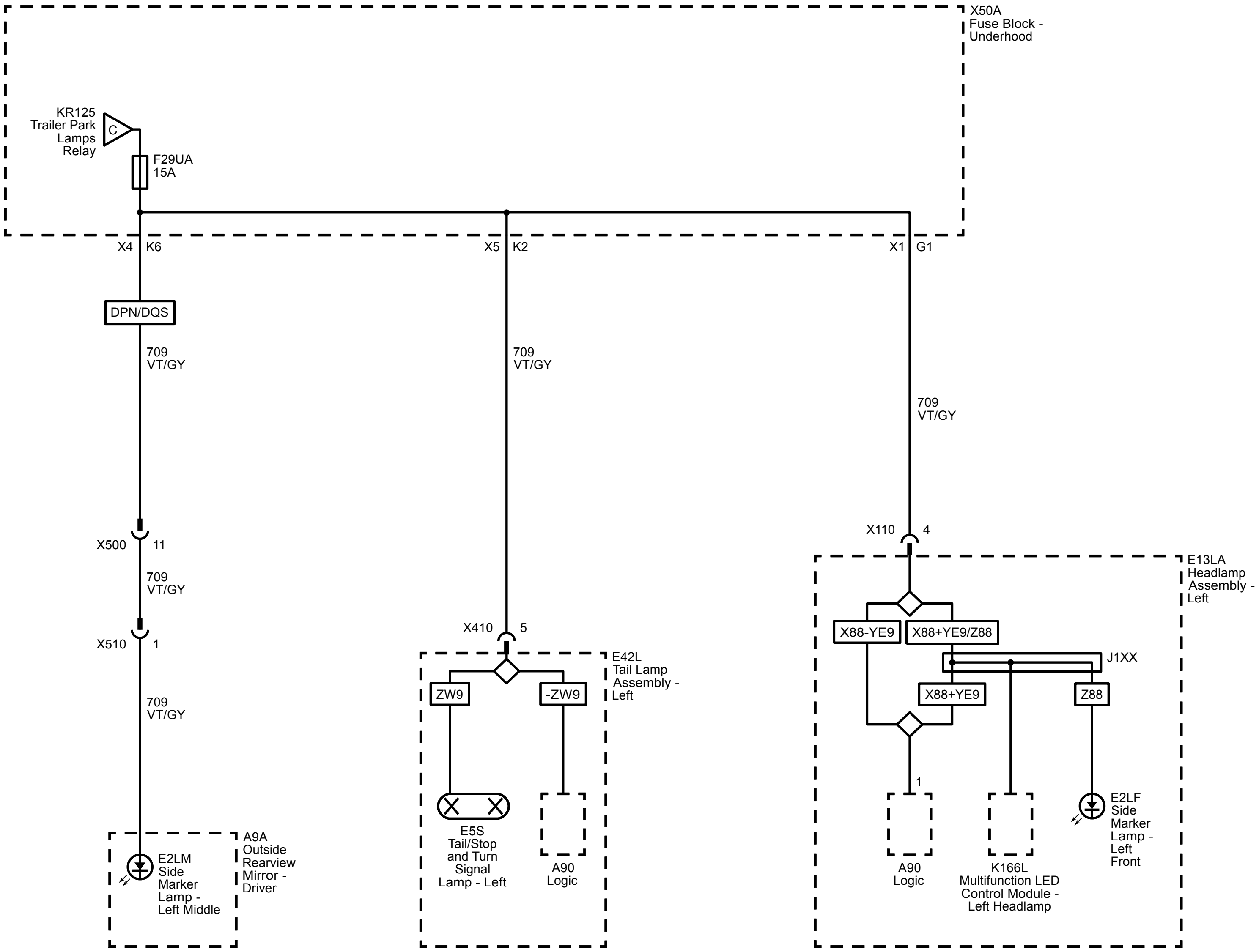
F14UA, F17UA and F58UA Fuses (1500)


B+
B+ BUS
X50A Fuse Block - Underhood
KR48 Headlamp High Beam Relay
KR63L Trailer Stop/Turn Signal Lamp Relay - Left
KR63R Trailer Stop/Turn Signal Lamp Relay - Right
F58UA 10A
F14UA 10A
F17UA 10A
X1
J4
H4
X5
K5
K6
Z82
Z82
711 WH
311 WH
1618 YE/GY
1619 L-GN/VT
G
D
X88 Trailer Connector
X110
3
X120
3
E13LA Headlamp Assembly - Left
E13RA Headlamp Assembly - Right
X88-YE9
Z88-YE9
X88/Z88+YE9
X88-YE9
Z88-YE9
X88/Z88+YE9
K81L Headlamp High Beam Control Module - Left
M28L High Beam Solenoid Actuator - Left
K166L Multifunction LED Control Module - Left Headlamp
K81R Headlamp High Beam Control Module - Right
M28R High Beam Solenoid Actuator - Right
K166R Multifunction LED Control Module - Right Headlamp

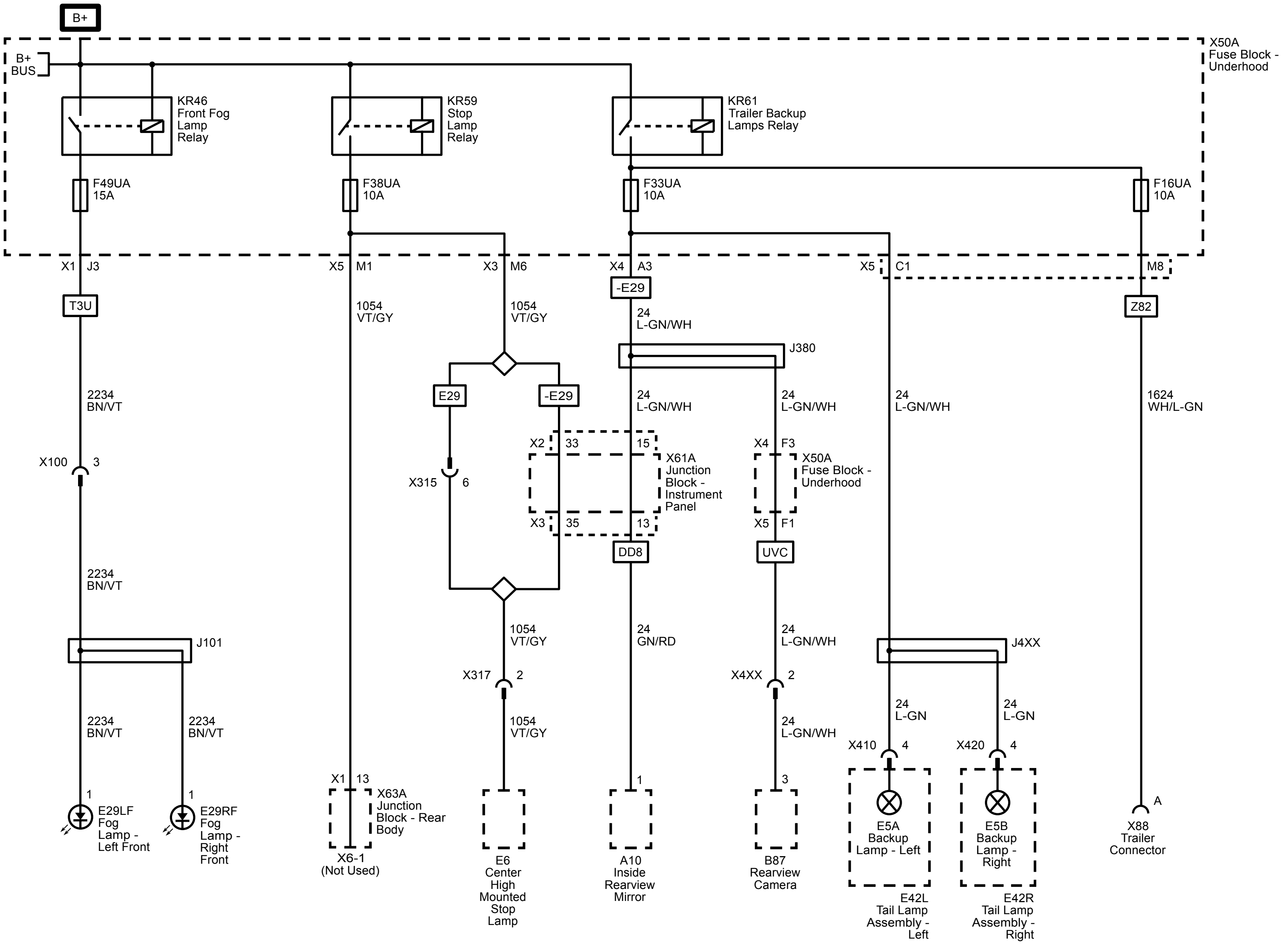
F15UA and F28UA Fuses (1500)


B+
B+ BUS
30
86
KR125 Trailer Park Lamps Relay
87
X50A Fuse Block - Underhood
C
F29UA
F15UA 20A
F28UA 15A
X5
J3
K4
X1
F1
Z82
309 GY/BN
DPN/DQS
-DPN/DQS
J133
2109 GY/BN
309 GY/BN
309 GY/BN
309 GY/BN
X138
23
309 GY/BN
309 GY/BN
X600
11
309 GY/BN
X120
4
E13RA Headlamp Assembly - Right
X88-YE9
X88+YE9/Z88
J1XX
X420
5
X610
1
309 GY/BN
E42R Tail Lamp Assembly - Right
ZW9
-ZW9
X88+YE9
Z88
1
F
X88 Trailer Connector
E2RM Side Marker Lamp - Right Middle
A9B Outside Rearview Mirror - Passenger
E5T Tail/Stop and Turn Signal Lamp - Right
A90 Logic
A90 Logic
K166R Multifunction LED Control Module - Right Headlamp
E2RF Side Marker Lamp - Right Front

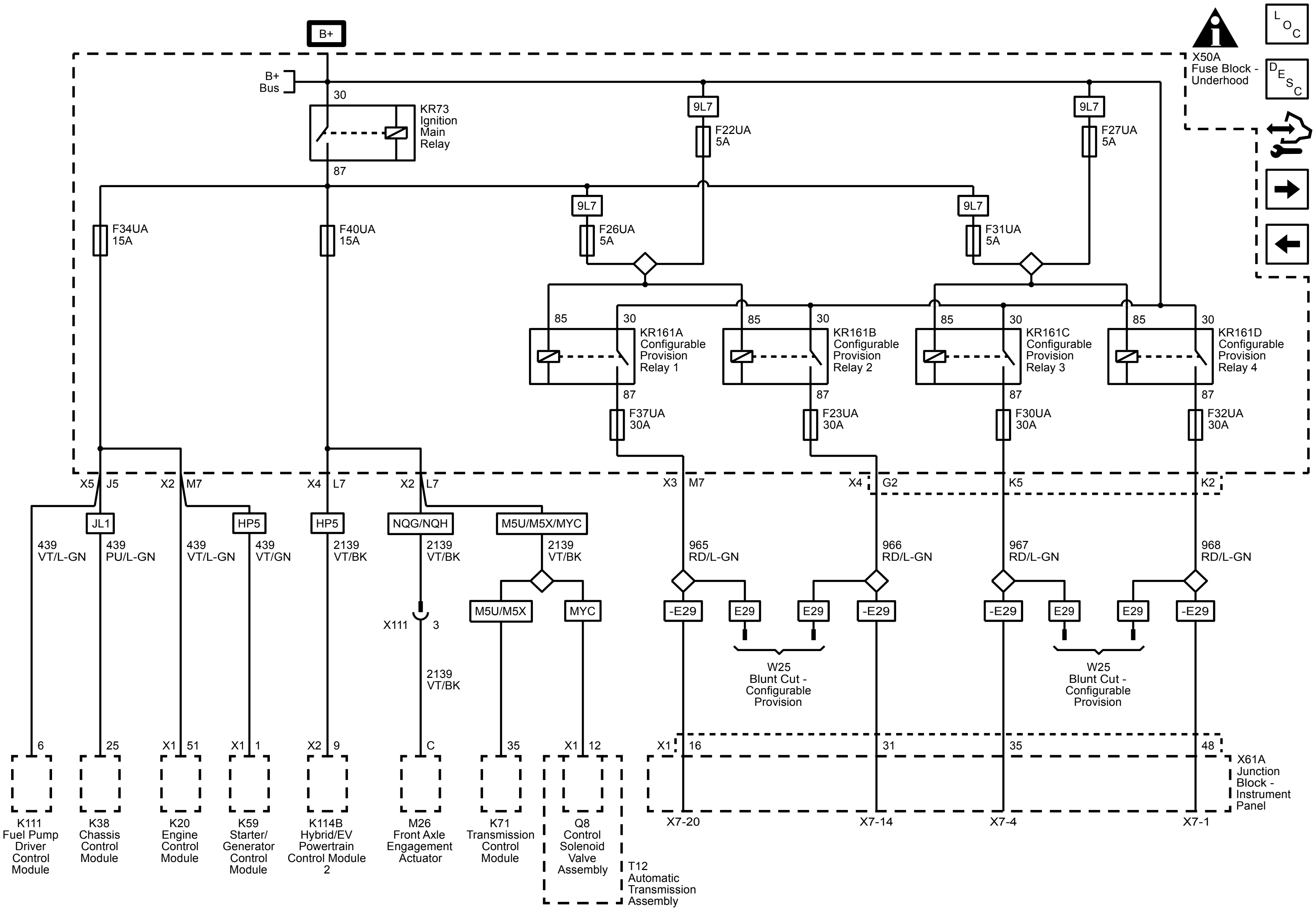
F29UA Fuse (1500)


X50A
Fuse Block - Underhood
KR125
Trailer Park Lamps Relay
C
F29UA
15A
X4
K6
X5
K2
X1
G1
DPN/DQS
709
VT/GY
709
VT/GY
709
VT/GY
X500
11
709
VT/GY
X510
1
709
VT/GY
X410
5
X110
4
E13LA
Headlamp Assembly - Left
X88-YE9
X88+YE9/Z88
J1XX
X88+YE9
Z88
E42L
Tail Lamp Assembly - Left
ZW9
-ZW9
E5S
Tail/Stop and Turn Signal Lamp - Left
A90
Logic
A9A
Outside Rearview Mirror - Driver
E2LM
Side Marker Lamp - Left Middle
1
A90
Logic
K166L
Multifunction LED Control Module - Left Headlamp
E2LF
Side Marker Lamp - Left Front

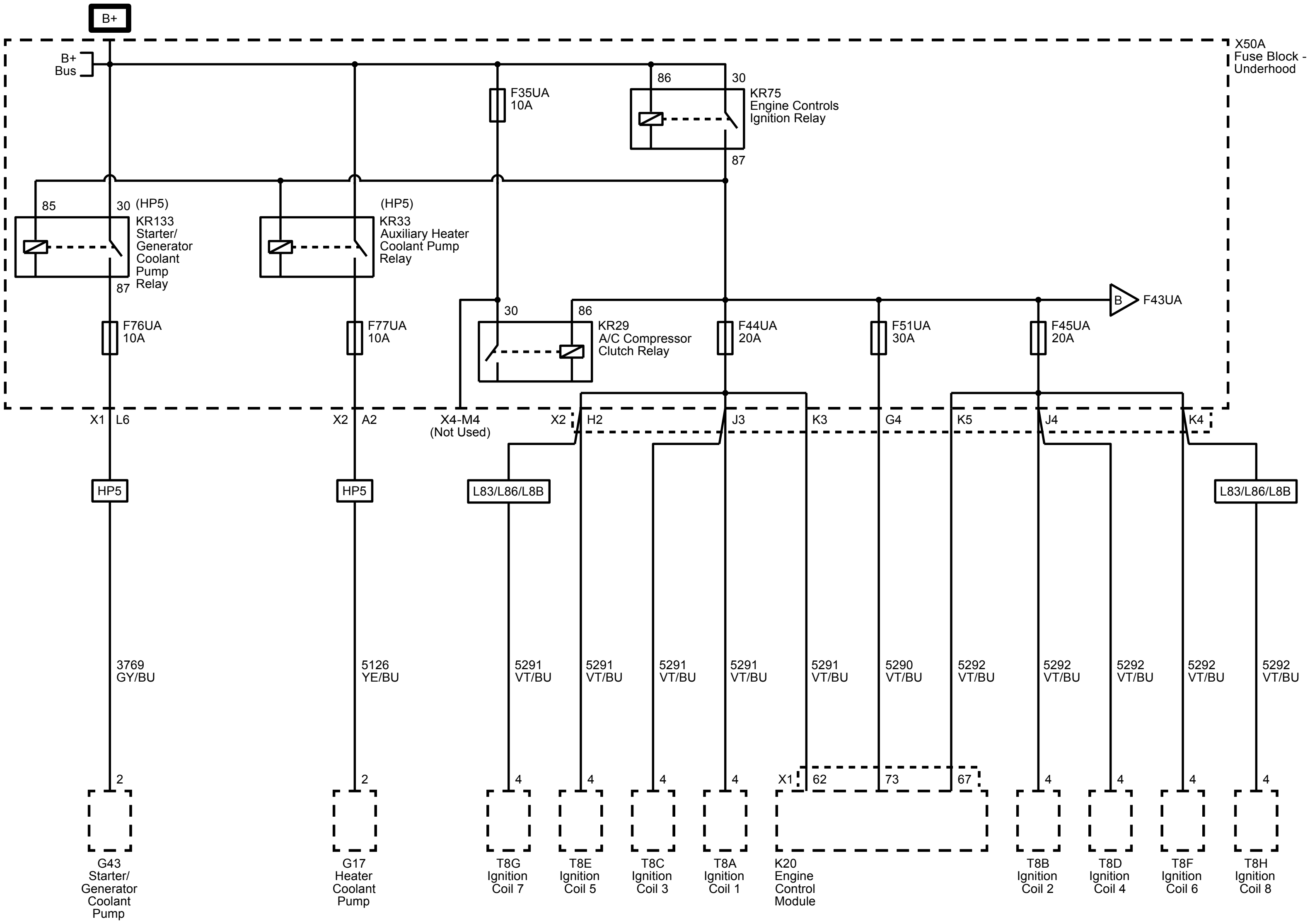
F16UA, F33UA, F38UA and F49UA Fuses (1500)


B+
B+ BUS
X50A Fuse Block - Underhood
KR46 Front Fog Lamp Relay
KR59 Stop Lamp Relay
KR61 Trailer Backup Lamps Relay
F49UA 15A
F38UA 10A
F33UA 10A
F16UA 10A
X1 J3
X5 M1
X3 M6
X4 A3
X5 C1
M8
T3U
-E29
Z82
1054 VT/GY
1054 VT/GY
24 L-GN/WH
J380
E29
-E29
2234 BN/VT
24 L-GN/WH
24 L-GN/WH
24 L-GN/WH
1624 WH/L-GN
X2 33
15
X61A Junction Block - Instrument Panel
X4 F3
X50A Fuse Block - Underhood
X100 3
X315 6
X3 35
13
X5 F1
DD8
UVC
2234 BN/VT
1054 VT/GY
24 GN/RD
24 L-GN/WH
J101
J4XX
X317 2
X4XX 2
2234 BN/VT
2234 BN/VT
1054 VT/GY
24 L-GN/WH
24 L-GN
24 L-GN
X410 4
X420 4
X1 13
X63A Junction Block - Rear Body
1
3
1
1
A
E29LF Fog Lamp - Left Front
E29RF Fog Lamp - Right Front
X6-1 (Not Used)
E6 Center High Mounted Stop Lamp
A10 Inside Rearview Mirror
B87 Rearview Camera
E5A Backup Lamp - Left
E5B Backup Lamp - Right
E42L Tail Lamp Assembly - Left
E42R Tail Lamp Assembly - Right
X88 Trailer Connector

F22UA, F23UA, F26UA, F27UA, F30UA, F31UA, F32UA, F34UA, F37UA and F40UA Fuses (1500)


B+
B+
Bus
30
KR73
Ignition
Main
Relay
87
9L7
F22UA
5A
9L7
F27UA
5A
X50A
Fuse Block -
Underhood
L O C
D E S C
F34UA
15A
F40UA
15A
9L7
F26UA
5A
9L7
F31UA
5A
85
30
KR161A
Configurable
Provision
Relay 1
87
85
30
KR161B
Configurable
Provision
Relay 2
87
85
30
KR161C
Configurable
Provision
Relay 3
87
85
30
KR161D
Configurable
Provision
Relay 4
87
F37UA
30A
F23UA
30A
F30UA
30A
F32UA
30A
X5
J5
X2
M7
X4
L7
X2
L7
X3
M7
X4
G2
K5
K2
JL1
HP5
HP5
NQG/NQH
M5U/M5X/MYC
439
VT/L-GN
439
PU/L-GN
439
VT/L-GN
439
VT/GN
2139
VT/BK
2139
VT/BK
2139
VT/BK
965
RD/L-GN
966
RD/L-GN
967
RD/L-GN
968
RD/L-GN
M5U/M5X
MYC
X111
3
2139
VT/BK
-E29
E29
E29
-E29
-E29
E29
E29
-E29
W25
Blunt Cut -
Configurable
Provision
W25
Blunt Cut -
Configurable
Provision
6
25
X1
51
X1
1
X2
9
C
35
X1
12
X1
16
31
35
48
X61A
Junction
Block -
Instrument
Panel
K111
Fuel Pump
Driver
Control
Module
K38
Chassis
Control
Module
K20
Engine
Control
Module
K59
Starter/
Generator
Control
Module
K114B
Hybrid/EV
Powertrain
Control Module
2
M26
Front Axle
Engagement
Actuator
K71
Transmission
Control
Module
Q8
Control
Solenoid
Valve
Assembly
T12
Automatic
Transmission
Assembly
X7-20
X7-14
X7-4
X7-1

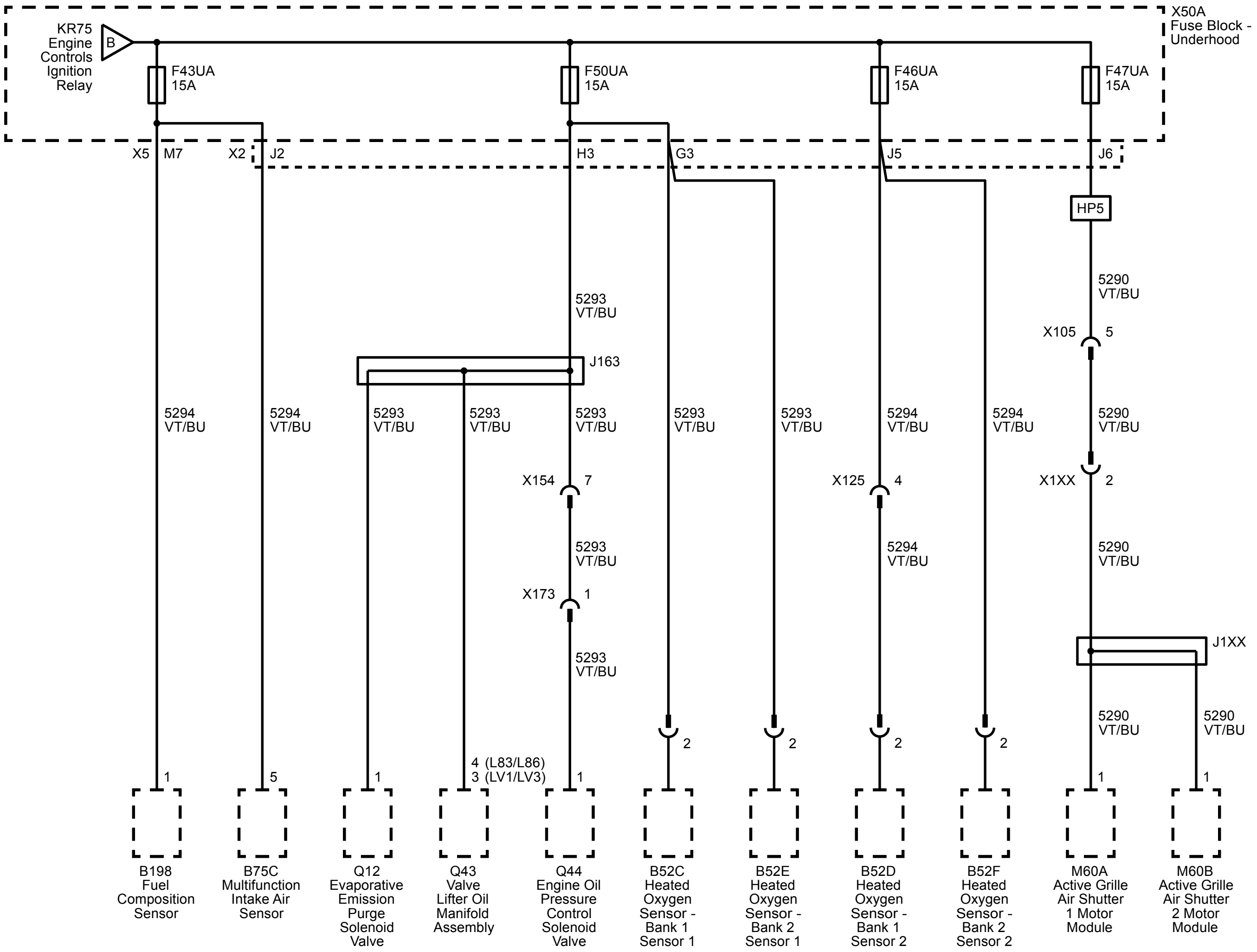
F35UA, F44UA, F45UA and F51UA Fuses (1500)


B+
B+ Bus
X50A Fuse Block - Underhood
F35UA 10A
86
30
KR75 Engine Controls Ignition Relay
87
85
30 (HP5)
KR133 Starter/ Generator Coolant Pump Relay
87
(HP5)
KR33 Auxiliary Heater Coolant Pump Relay
30
86
KR29 A/C Compressor Clutch Relay
F44UA 20A
F51UA 30A
F45UA 20A
B
F43UA
F76UA 10A
F77UA 10A
X1
L6
X2
A2
X4-M4 (Not Used)
X2
H2
J3
K3
G4
K5
J4
K4
HP5
HP5
L83/L86/L8B
L83/L86/L8B
3769 GY/BU
5126 YE/BU
5291 VT/BU
5291 VT/BU
5291 VT/BU
5291 VT/BU
5291 VT/BU
5290 VT/BU
5292 VT/BU
5292 VT/BU
5292 VT/BU
5292 VT/BU
5292 VT/BU
2
2
4
4
4
4
X1
62
73
67
4
4
4
4
G43 Starter/ Generator Coolant Pump
G17 Heater Coolant Pump
T8G Ignition Coil 7
T8E Ignition Coil 5
T8C Ignition Coil 3
T8A Ignition Coil 1
K20 Engine Control Module
T8B Ignition Coil 2
T8D Ignition Coil 4
T8F Ignition Coil 6
T8H Ignition Coil 8

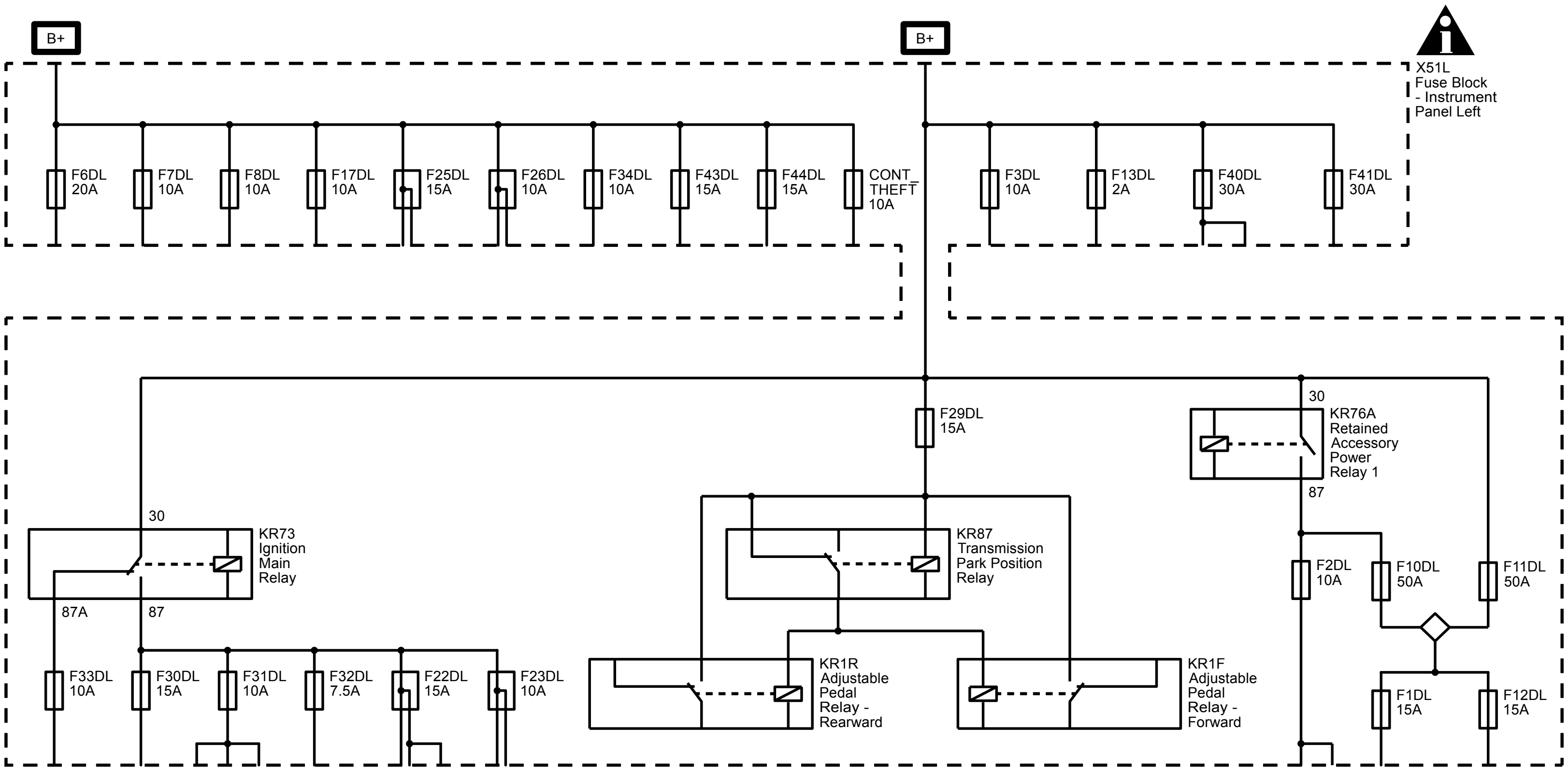
LOC
DESC

F43UA, F46UA and F50UA Fuses (1500)

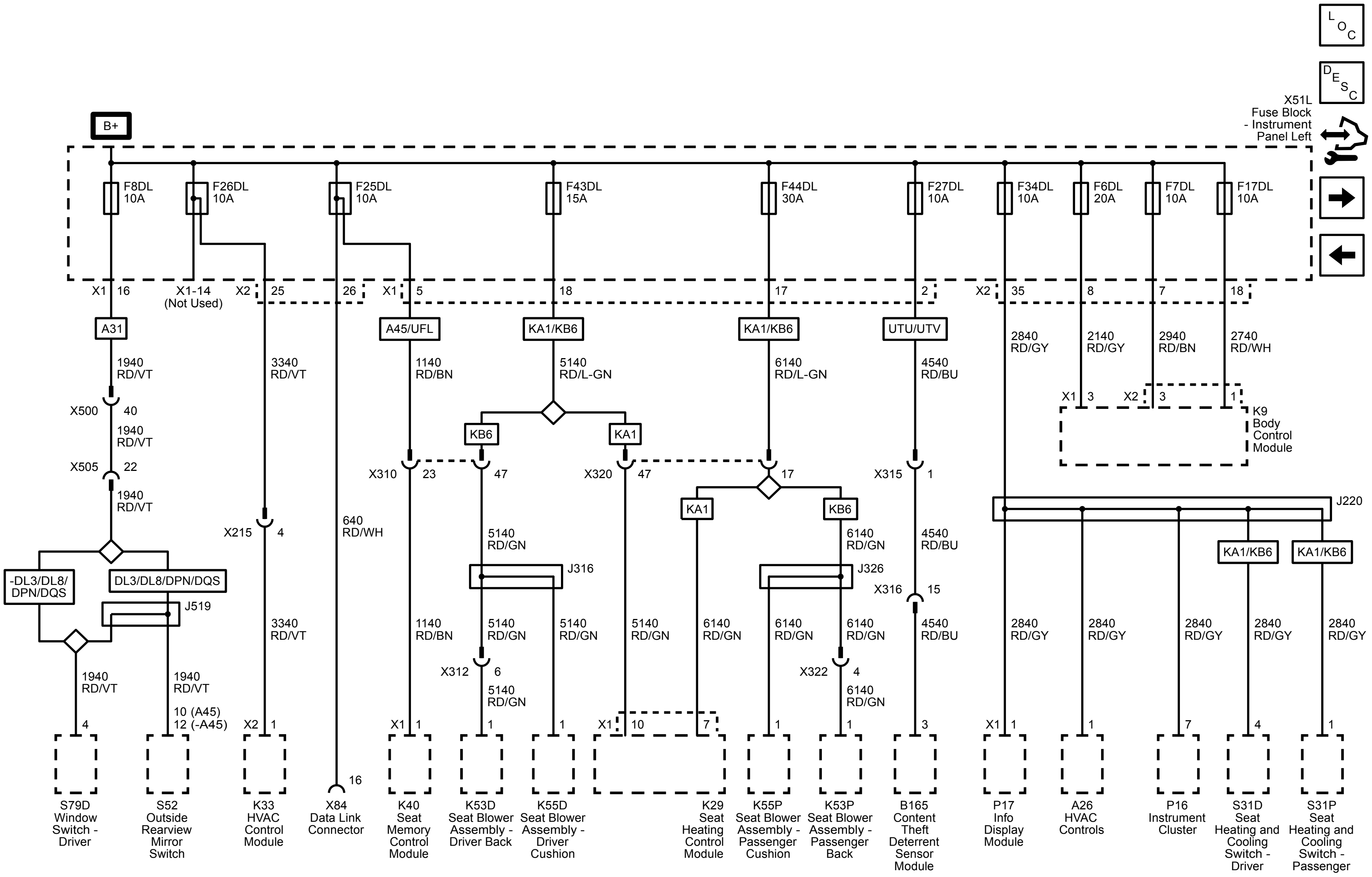
LOC
DESC


KR75 Engine Controls Ignition Relay
B
X50A Fuse Block - Underhood
F43UA 15A
F50UA 15A
F46UA 15A
F47UA 15A
X5
M7
X2
J2
H3
G3
J5
J6
HP5
5293 VT/BU
J163
5290 VT/BU
X105
5
5294 VT/BU
5294 VT/BU
5293 VT/BU
5293 VT/BU
5293 VT/BU
5293 VT/BU
5293 VT/BU
5294 VT/BU
5294 VT/BU
5290 VT/BU
X154
7
X125
4
X1XX
2
5293 VT/BU
5294 VT/BU
5290 VT/BU
X173
1
5293 VT/BU
J1XX
5290 VT/BU
5290 VT/BU
2
2
2
2
1
5
1
4 (L83/L86)
3 (LV1/LV3)
1
1
1
B198 Fuel Composition Sensor
B75C Multifunction Intake Air Sensor
Q12 Evaporative Emission Purge Solenoid Valve
Q43 Valve Lifter Oil Manifold Assembly
Q44 Engine Oil Pressure Control Solenoid Valve
B52C Heated Oxygen Sensor - Bank 1 Sensor 1
B52E Heated Oxygen Sensor - Bank 2 Sensor 1
B52D Heated Oxygen Sensor - Bank 1 Sensor 2
B52F Heated Oxygen Sensor - Bank 2 Sensor 2
M60A Active Grille Air Shutter 1 Motor Module
M60B Active Grille Air Shutter 2 Motor Module

B+ Bus X51L Fuse Block - Instrument Panel Left (1500)

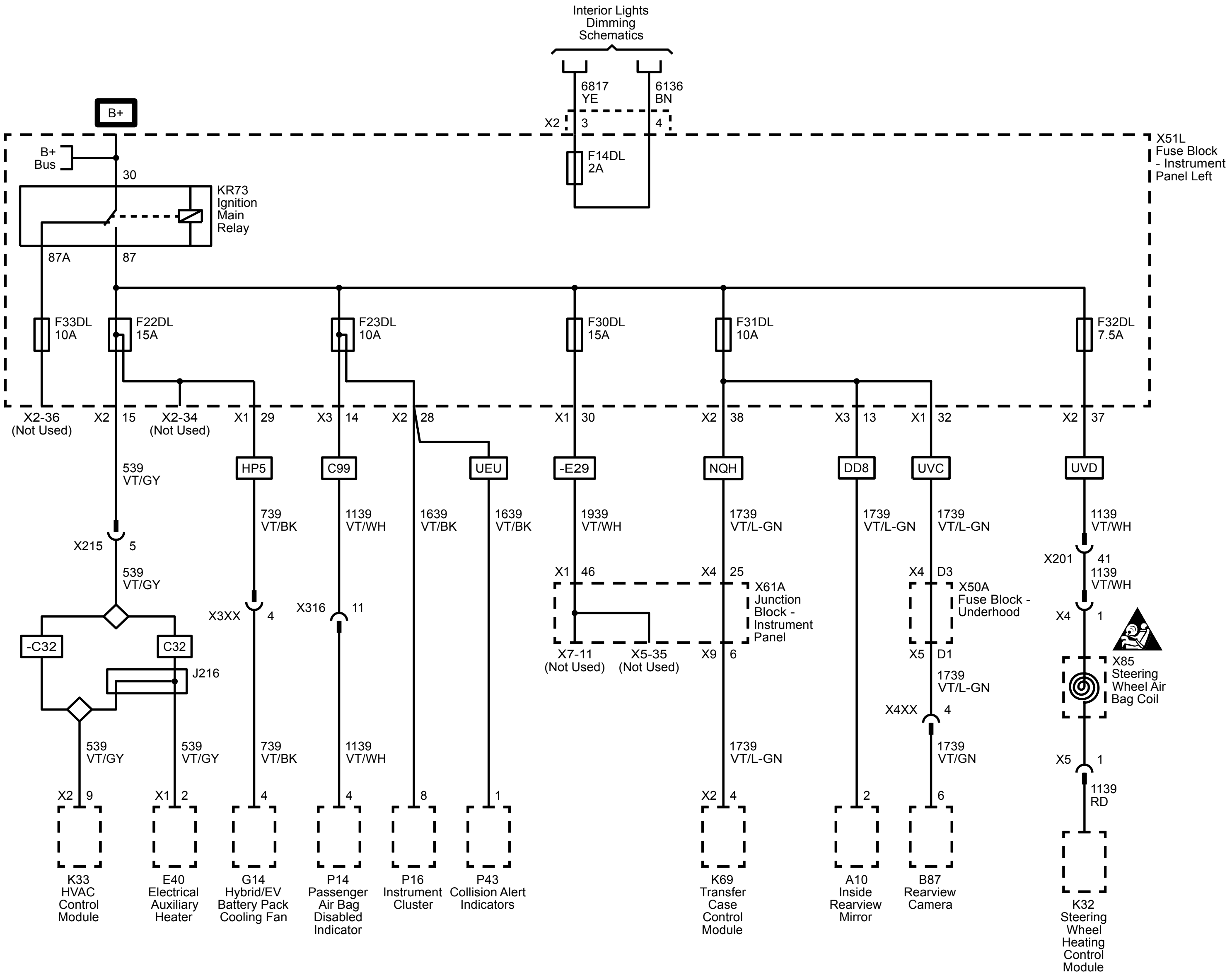

B+
B+
X51L
Fuse Block
- Instrument
Panel Left
F6DL
20A
F7DL
10A
F8DL
10A
F17DL
10A
F25DL
15A
F26DL
10A
F34DL
10A
F43DL
15A
F44DL
15A
CONT_
THEFT
10A
F3DL
10A
F13DL
2A
F40DL
30A
F41DL
30A
F29DL
15A
30
KR76A
Retained
Accessory
Power
Relay 1
87
30
KR73
Ignition
Main
Relay
87A
87
KR87
Transmission
Park Position
Relay
F2DL
10A
F10DL
50A
F11DL
50A
F33DL
10A
F30DL
15A
F31DL
10A
F32DL
7.5A
F22DL
15A
F23DL
10A
KR1R
Adjustable
Pedal
Relay -
Rearward
KR1F
Adjustable
Pedal
Relay -
Forward
F1DL
15A
F12DL
15A

F6DL, F7DL, F8DL, F17DL, F25DL, F26DL, F34DL, F43DL, F44DL and CONT_THEFT Fuses (1500)

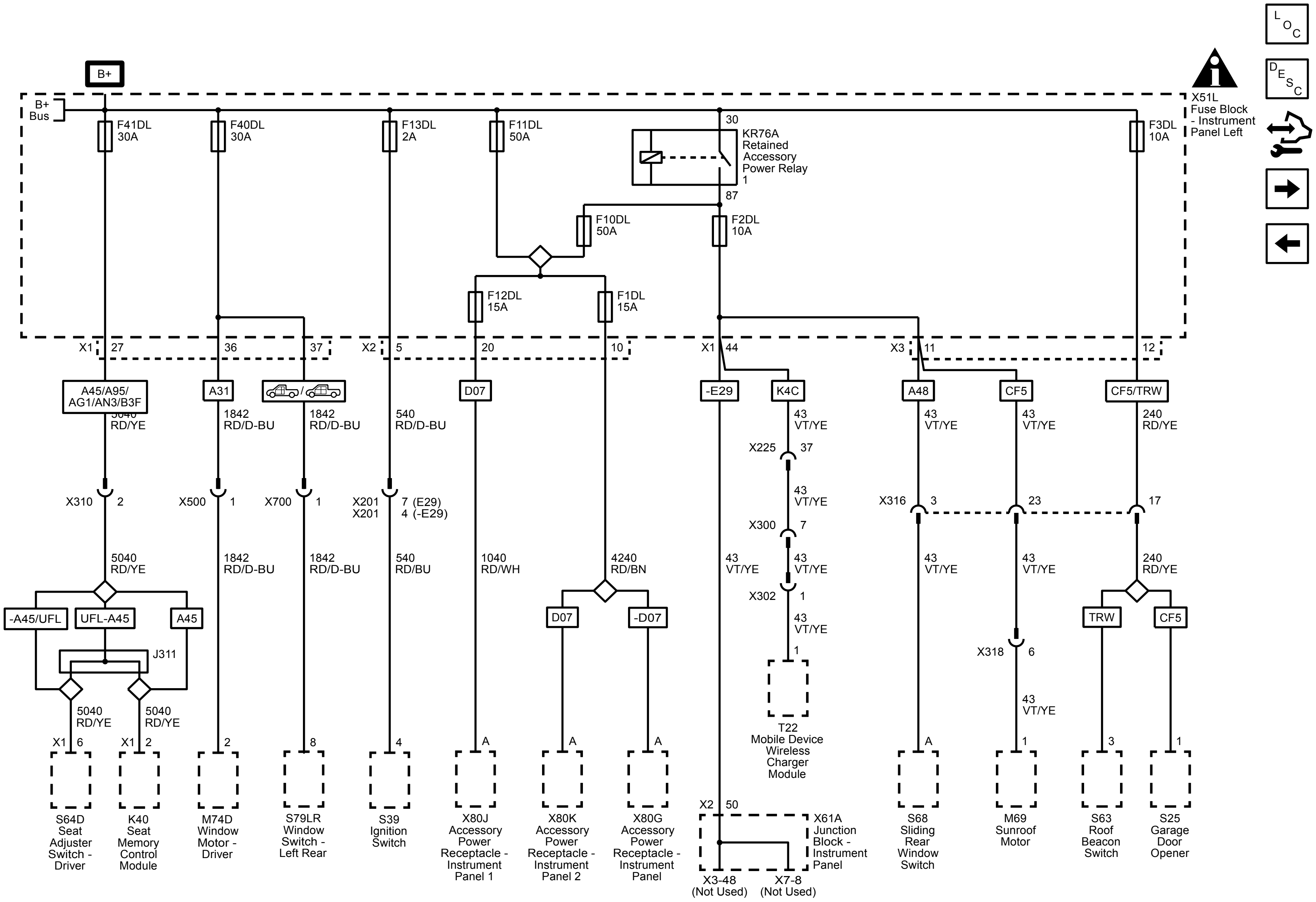


LOC
DESC
X51L Fuse Block - Instrument Panel Left
B+
F8DL 10A
F26DL 10A
F25DL 10A
F43DL 15A
F44DL 30A
F27DL 10A
F34DL 10A
F6DL 20A
F7DL 10A
F17DL 10A
X1 16
X1-14 (Not Used)
X2 25
26
X1 5
18
17
2
X2 35
8
7
18
A31
A45/UFL
KA1/KB6
KA1/KB6
UTU/UTV
1940 RD/VT
3340 RD/VT
1140 RD/BN
5140 RD/L-GN
6140 RD/L-GN
4540 RD/BU
2840 RD/GY
2140 RD/GY
2940 RD/BN
2740 RD/WH
X1 3
X2 3
1
K9 Body Control Module
X500 40
1940 RD/VT
X505 22
1940 RD/VT
KB6
KA1
X310 23
47
X320 47
17
X315 1
KA1
KB6
J220
KA1/KB6
KA1/KB6
X215 4
640 RD/WH
5140 RD/GN
6140 RD/GN
4540 RD/BU
-DL3/DL8/ DPN/DQS
DL3/DL8/DPN/DQS
J316
J326
X316 15
J519
3340 RD/VT
1140 RD/BN
5140 RD/GN
5140 RD/GN
5140 RD/GN
6140 RD/GN
6140 RD/GN
6140 RD/GN
4540 RD/BU
2840 RD/GY
2840 RD/GY
2840 RD/GY
2840 RD/GY
2840 RD/GY
1940 RD/VT
1940 RD/VT
X312 6
5140 RD/GN
X322 4
6140 RD/GN
4
10 (A45) 12 (-A45)
X2 1
16
X1 1
1
1
X1 10
7
1
1
3
X1 1
1
7
4
1
S79D Window Switch - Driver
S52 Outside Rearview Mirror Switch
K33 HVAC Control Module
X84 Data Link Connector
K40 Seat Memory Control Module
K53D Seat Blower Assembly - Driver Back
K55D Seat Blower Assembly - Driver Cushion
K29 Seat Heating Control Module
K55P Seat Blower Assembly - Passenger Cushion
K53P Seat Blower Assembly - Passenger Back
B165 Content Theft Deterrent Sensor Module
P17 Info Display Module
A26 HVAC Controls
P16 Instrument Cluster
S31D Seat Heating and Cooling Switch - Driver
S31P Seat Heating and Cooling Switch - Passenger

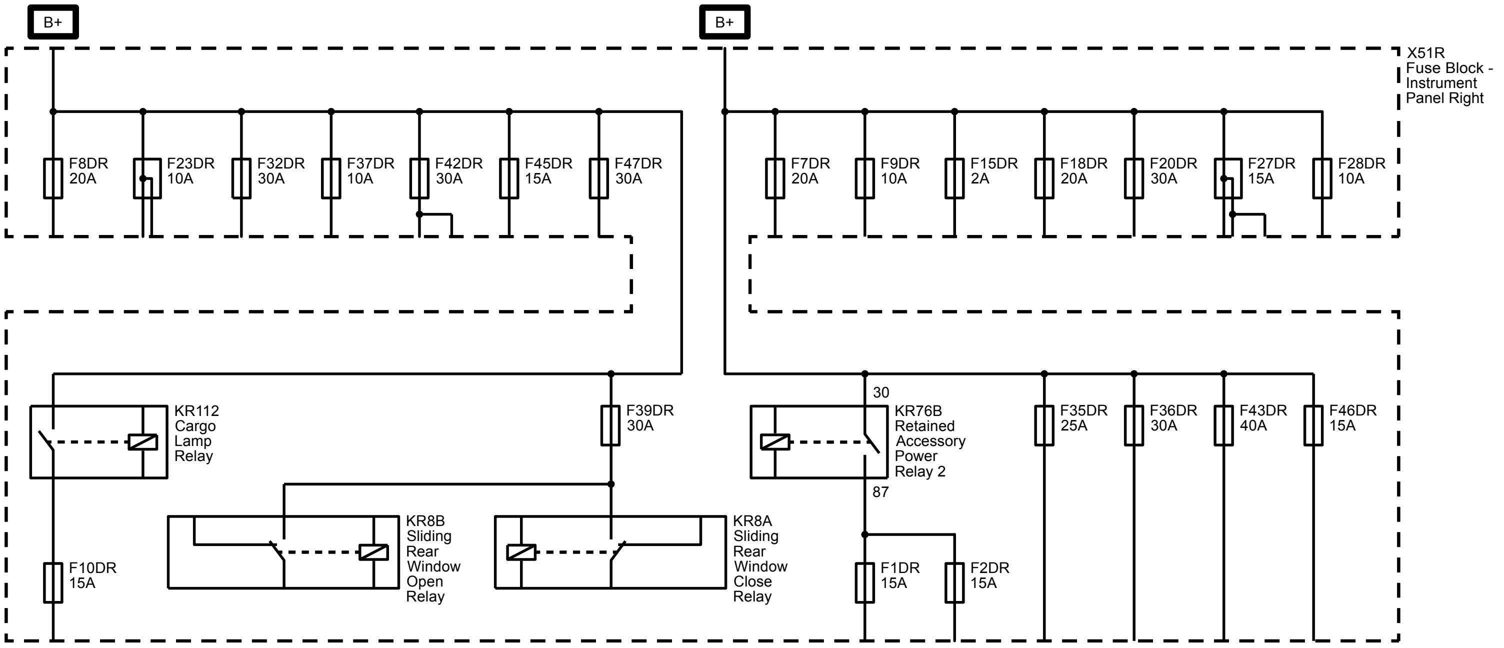
F14DL, F22DL, F23DL, F30DL, F31DL, F32DL and F33DL Fuses (1500)


Interior Lights Dimming Schematics
6817 YE
6136 BN
X2 3
4
B+
X51L Fuse Block - Instrument Panel Left
B+ Bus
30
F14DL 2A
KR73 Ignition Main Relay
87A
87
F33DL 10A
F22DL 15A
F23DL 10A
F30DL 15A
F31DL 10A
F32DL 7.5A
X2-36 (Not Used)
X2 15
X2-34 (Not Used)
X1 29
X3 14
X2 28
X1 30
X2 38
X3 13
X1 32
X2 37
HP5
C99
UEU
-E29
NQH
DD8
UVC
UVD
539 VT/GY
739 VT/BK
1139 VT/WH
1639 VT/BK
1639 VT/BK
1939 VT/WH
1739 VT/L-GN
1739 VT/L-GN
1739 VT/L-GN
1139 VT/WH
X215 5
539 VT/GY
X3XX 4
X316 11
X1 46
X4 25
X61A Junction Block - Instrument Panel
X7-11 (Not Used)
X5-35 (Not Used)
X9 6
X4 D3
X50A Fuse Block - Underhood
X5 D1
1739 VT/L-GN
X4XX 4
1739 VT/GN
X201 41
1139 VT/WH
X4 1
X85 Steering Wheel Air Bag Coil
X5 1
1139 RD
-C32
C32
J216
539 VT/GY
539 VT/GY
739 VT/BK
1139 VT/WH
1739 VT/L-GN
X2 9
X1 2
4
4
8
1
X2 4
2
6
K33 HVAC Control Module
E40 Electrical Auxiliary Heater
G14 Hybrid/EV Battery Pack Cooling Fan
P14 Passenger Air Bag Disabled Indicator
P16 Instrument Cluster
P43 Collision Alert Indicators
K69 Transfer Case Control Module
A10 Inside Rearview Mirror
B87 Rearview Camera
K32 Steering Wheel Heating Control Module

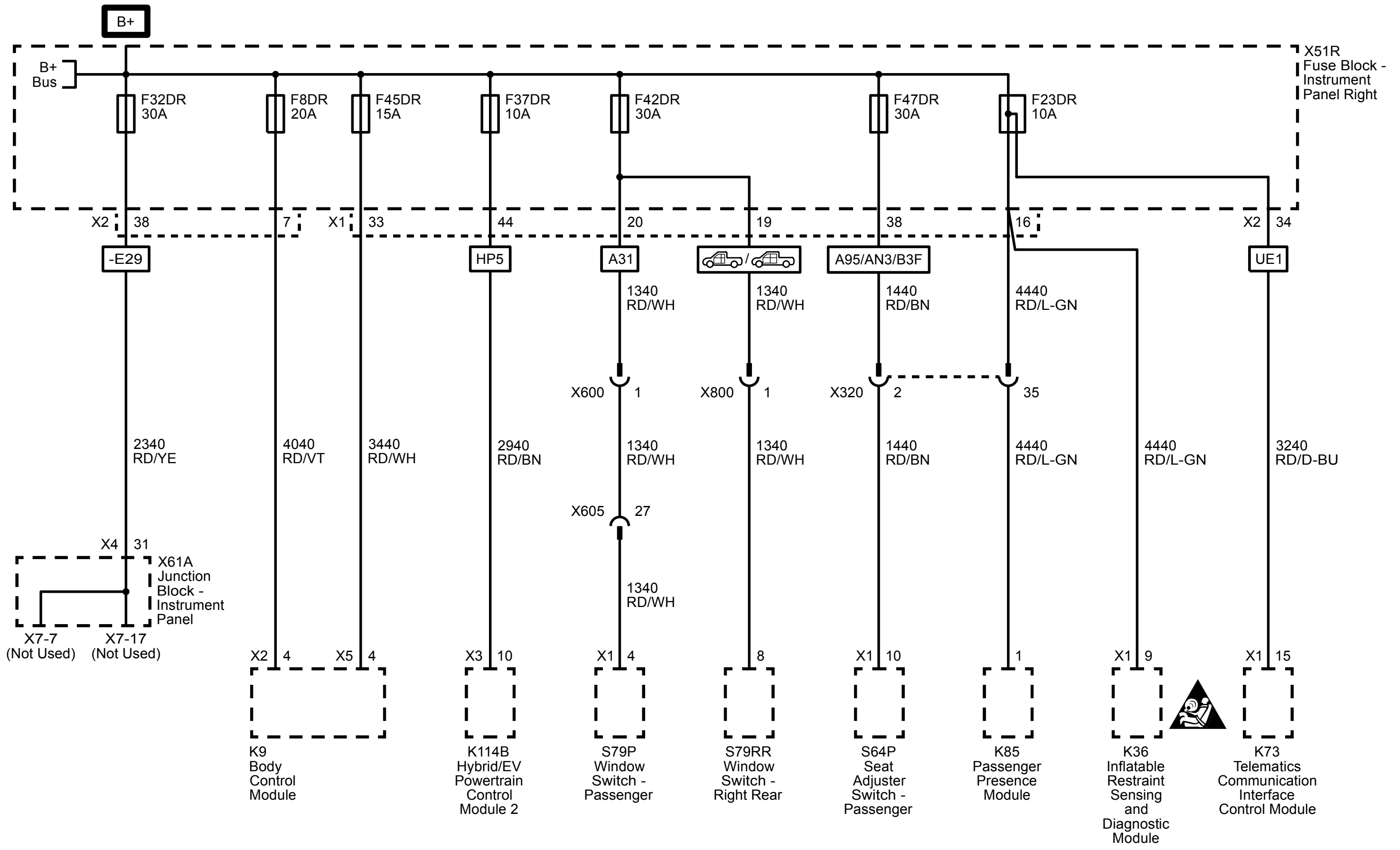
F1DL, F2DL, F3DL, F10DL, F11DL, F12DL, F13DL, F40DL and F41DL Fuses (1500)


B+
B+ Bus
F41DL 30A
F40DL 30A
F13DL 2A
F11DL 50A
30
KR76A Retained Accessory Power Relay
1
87
F10DL 50A
F2DL 10A
F12DL 15A
F1DL 15A
F3DL 10A
X51L Fuse Block - Instrument Panel Left
X1 27
36
37
X2 5
20
10
X1 44
X3 11
12
A45/A95/AG1/AN3/B3F
5040 RD/YE
A31
1842 RD/D-BU
1842 RD/D-BU
540 RD/D-BU
D07
-E29
K4C
43 VT/YE
A48
43 VT/YE
CF5
43 VT/YE
CF5/TRW
240 RD/YE
X225 37
43 VT/YE
X310 2
X500 1
X700 1
X201 7 (E29)
X201 4 (-E29)
X316 3
23
17
X300 7
5040 RD/YE
1842 RD/D-BU
1842 RD/D-BU
540 RD/BU
1040 RD/WH
4240 RD/BN
43 VT/YE
43 VT/YE
43 VT/YE
43 VT/YE
240 RD/YE
X302 1
43 VT/YE
-A45/UFL
UFL-A45
A45
D07
-D07
TRW
CF5
J311
X318 6
1
5040 RD/YE
5040 RD/YE
43 VT/YE
X1 6
X1 2
2
8
4
A
A
A
A
1
3
1
T22 Mobile Device Wireless Charger Module
S64D Seat Adjuster Switch - Driver
K40 Seat Memory Control Module
M74D Window Motor - Driver
S79LR Window Switch - Left Rear
S39 Ignition Switch
X80J Accessory Power Receptacle - Instrument Panel 1
X80K Accessory Power Receptacle - Instrument Panel 2
X80G Accessory Power Receptacle - Instrument Panel
X2 50
X61A Junction Block - Instrument Panel
X3-48 (Not Used)
X7-8 (Not Used)
S68 Sliding Rear Window Switch
M69 Sunroof Motor
S63 Roof Beacon Switch
S25 Garage Door Opener
LOC
DESC

B+ Bus X51R Fuse Block - Instrument Panel Right (1500)

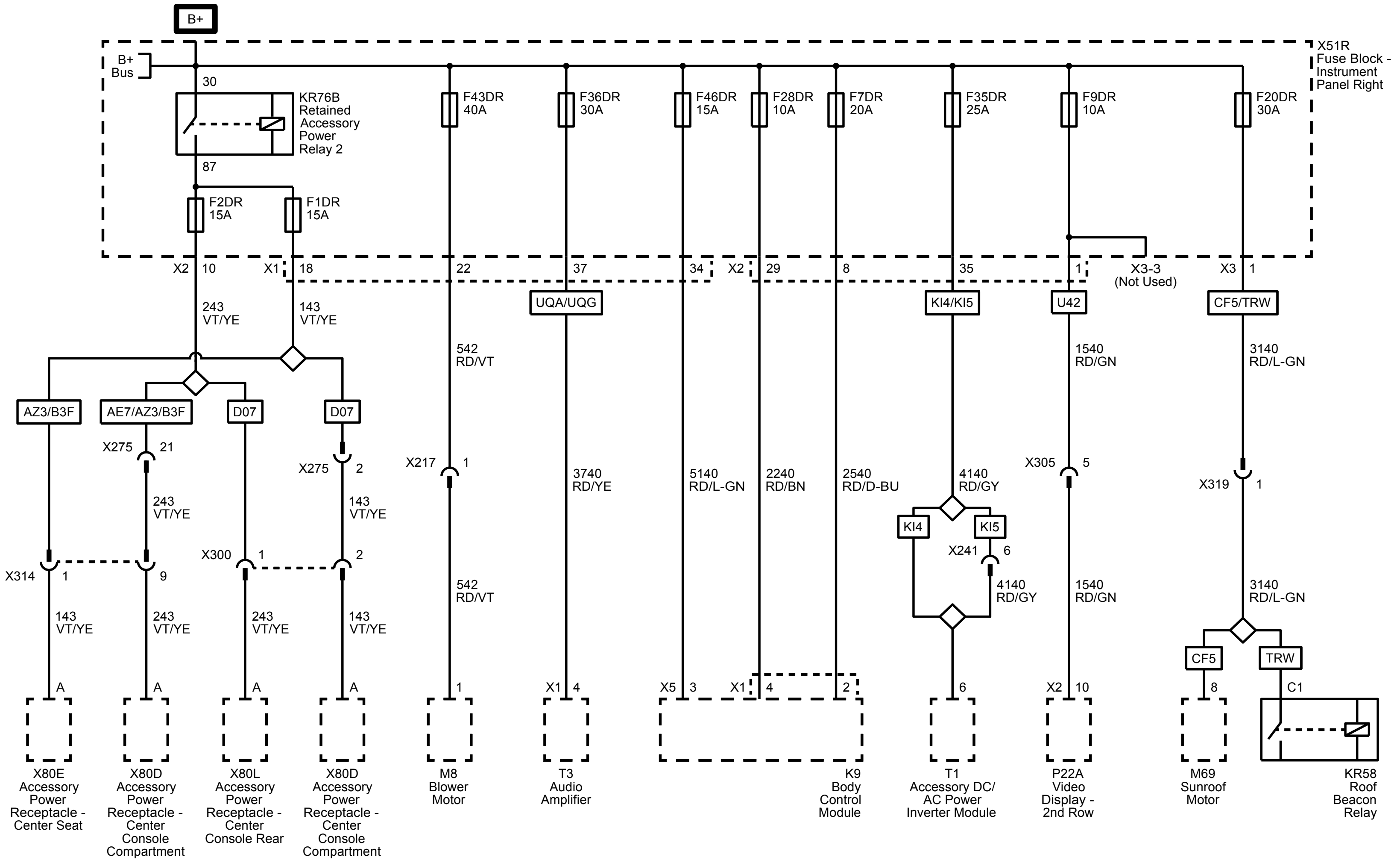

B+
B+
X51R
Fuse Block -
Instrument
Panel Right
F8DR 20A
F23DR 10A
F32DR 30A
F37DR 10A
F42DR 30A
F45DR 15A
F47DR 30A
F7DR 20A
F9DR 10A
F15DR 2A
F18DR 20A
F20DR 30A
F27DR 15A
F28DR 10A
KR112 Cargo Lamp Relay
F39DR 30A
30
KR76B Retained Accessory Power Relay 2
87
F35DR 25A
F36DR 30A
F43DR 40A
F46DR 15A
F10DR 15A
KR8B Sliding Rear Window Open Relay
KR8A Sliding Rear Window Close Relay
F1DR 15A
F2DR 15A

F8DR, F23DR, F32DR, F42DR, F45DR and F47DR Fuses (1500)

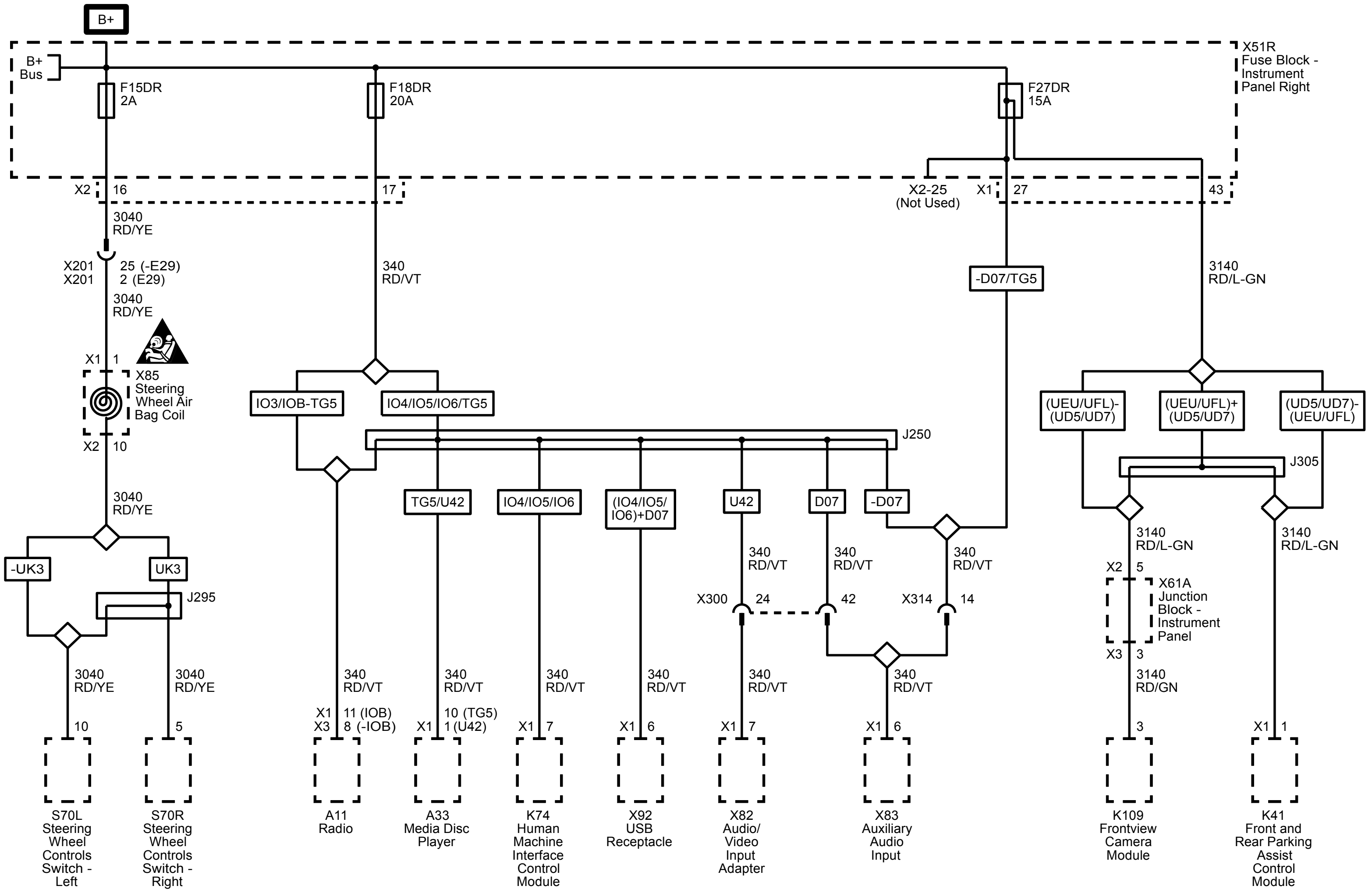


B+
B+ Bus
X51R Fuse Block - Instrument Panel Right
F32DR 30A
F8DR 20A
F45DR 15A
F37DR 10A
F42DR 30A
F47DR 30A
F23DR 10A
X2 38
7
X1 33
44
20
19
38
16
X2 34
-E29
HP5
A31
A95/AN3/B3F
UE1
1340 RD/WH
1340 RD/WH
1440 RD/BN
4440 RD/L-GN
X600 1
X800 1
X320 2
35
2340 RD/YE
4040 RD/VT
3440 RD/WH
2940 RD/BN
1340 RD/WH
1340 RD/WH
1440 RD/BN
4440 RD/L-GN
4440 RD/L-GN
3240 RD/D-BU
X605 27
1340 RD/WH
X4 31
X61A Junction Block - Instrument Panel
X7-7 (Not Used)
X7-17 (Not Used)
X2 4
X5 4
X3 10
X1 4
8
X1 10
1
X1 9
X1 15
K9 Body Control Module
K114B Hybrid/EV Powertrain Control Module 2
S79P Window Switch - Passenger
S79RR Window Switch - Right Rear
S64P Seat Adjuster Switch - Passenger
K85 Passenger Presence Module
K36 Inflatable Restraint Sensing and Diagnostic Module
K73 Telematics Communication Interface Control Module

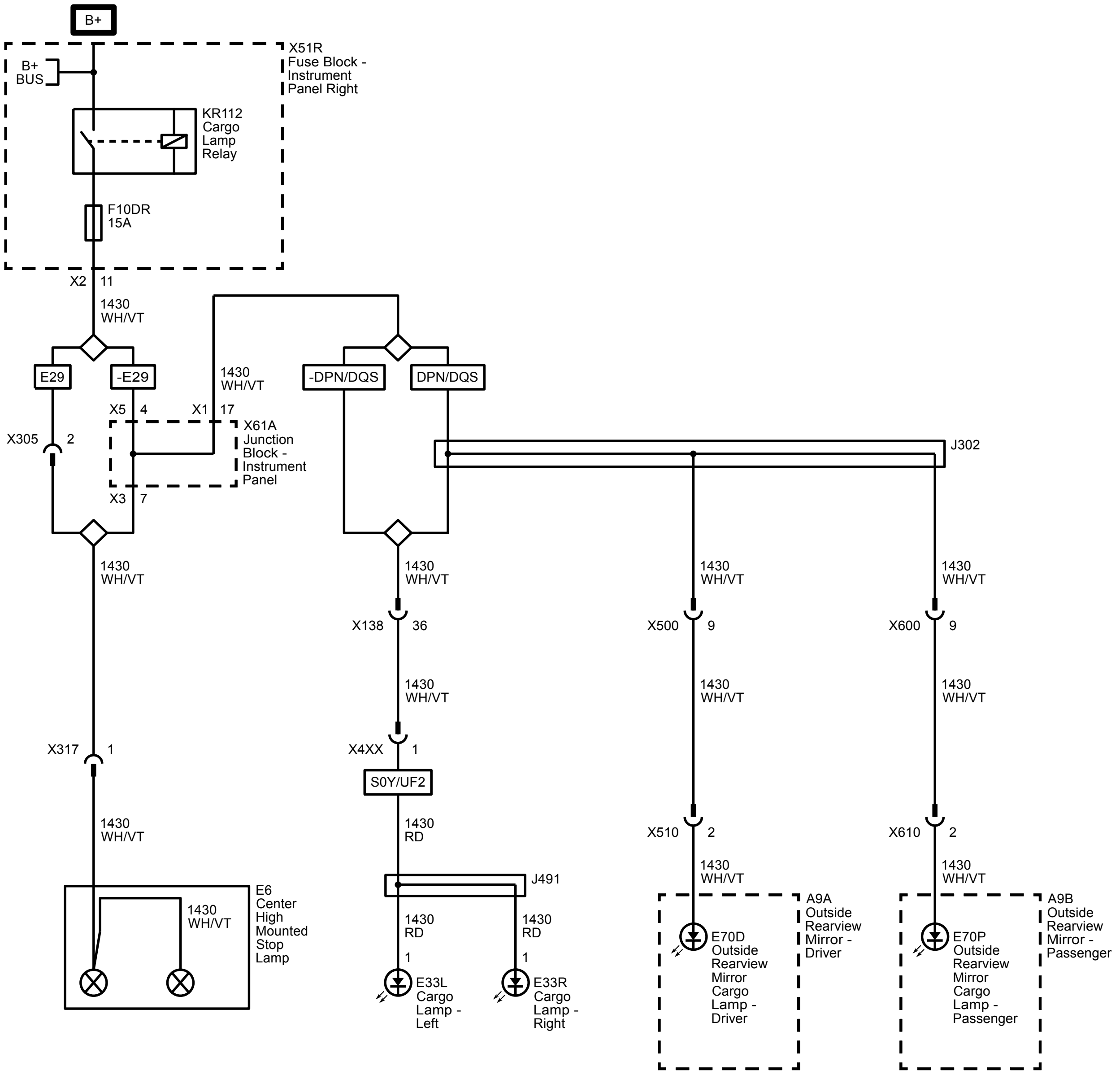
F1DR, F2DR, F7DR, F9DR, F20DR, F28DR, F35DR, F36DR, F43DR and F46DR Fuses (1500)


B+
B+ Bus
30
KR76B Retained Accessory Power Relay 2
87
F2DR 15A
F1DR 15A
F43DR 40A
F36DR 30A
F46DR 15A
F28DR 10A
F7DR 20A
F35DR 25A
F9DR 10A
F20DR 30A
X51R Fuse Block - Instrument Panel Right
X2 10
X1 18
22
37
34
X2 29
8
35
1
X3-3 (Not Used)
X3 1
243 VT/YE
143 VT/YE
UQA/UQG
KI4/KI5
U42
CF5/TRW
542 RD/VT
1540 RD/GN
3140 RD/L-GN
AZ3/B3F
AE7/AZ3/B3F
D07
D07
X275 21
X275 2
X217 1
X305 5
X319 1
3740 RD/YE
5140 RD/L-GN
2240 RD/BN
2540 RD/D-BU
4140 RD/GY
KI4
KI5
X241 6
243 VT/YE
143 VT/YE
X314 1
9
X300 1
2
542 RD/VT
4140 RD/GY
1540 RD/GN
3140 RD/L-GN
143 VT/YE
243 VT/YE
243 VT/YE
143 VT/YE
CF5
TRW
A
A
A
A
1
X1 4
X5 3
X1 4
2
6
X2 10
8
C1
X80E Accessory Power Receptacle - Center Seat
X80D Accessory Power Receptacle - Center Console Compartment
X80L Accessory Power Receptacle - Center Console Rear
X80D Accessory Power Receptacle - Center Console Compartment
M8 Blower Motor
T3 Audio Amplifier
K9 Body Control Module
T1 Accessory DC/AC Power Inverter Module
P22A Video Display - 2nd Row
M69 Sunroof Motor
KR58 Roof Beacon Relay

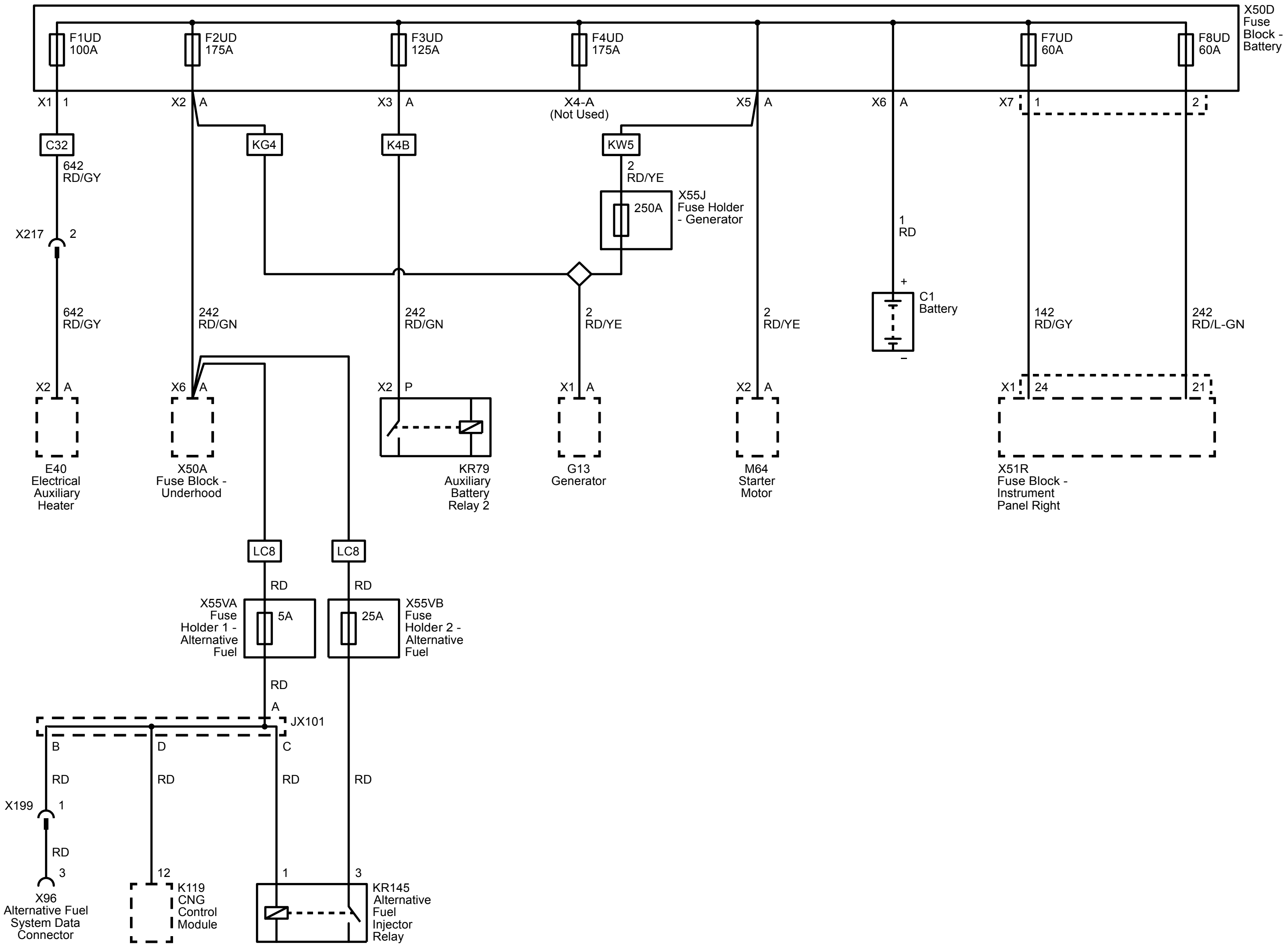
F15DR, F18DR and F27DR Fuses (1500)


B+
B+ Bus
F15DR 2A
F18DR 20A
F27DR 15A
X51R Fuse Block - Instrument Panel Right
X2 16
17
X2-25 (Not Used)
X1 27
43
3040 RD/YE
X201 25 (-E29)
X201 2 (E29)
3040 RD/YE
340 RD/VT
-D07/TG5
3140 RD/L-GN
X1 1
X85 Steering Wheel Air Bag Coil
X2 10
3040 RD/YE
IO3/IOB-TG5
IO4/IO5/IO6/TG5
J250
(UEU/UFL)-(UD5/UD7)
(UEU/UFL)+(UD5/UD7)
(UD5/UD7)-(UEU/UFL)
J305
-UK3
UK3
J295
TG5/U42
IO4/IO5/IO6
(IO4/IO5/IO6)+D07
U42
D07
-D07
340 RD/VT
340 RD/VT
340 RD/VT
X300 24
42
X314 14
3140 RD/L-GN
3140 RD/L-GN
X2 5
X61A Junction Block - Instrument Panel
X3 3
3140 RD/GN
3040 RD/YE
3040 RD/YE
340 RD/VT
340 RD/VT
340 RD/VT
340 RD/VT
340 RD/VT
340 RD/VT
10
5
X1 11 (IOB)
X3 8 (-IOB)
X1 10 (TG5)
1 (U42)
X1 7
X1 6
X1 7
X1 6
3
X1 1
S70L Steering Wheel Controls Switch - Left
S70R Steering Wheel Controls Switch - Right
A11 Radio
A33 Media Disc Player
K74 Human Machine Interface Control Module
X92 USB Receptacle
X82 Audio/ Video Input Adapter
X83 Auxiliary Audio Input
K109 Frontview Camera Module
K41 Front and Rear Parking Assist Control Module

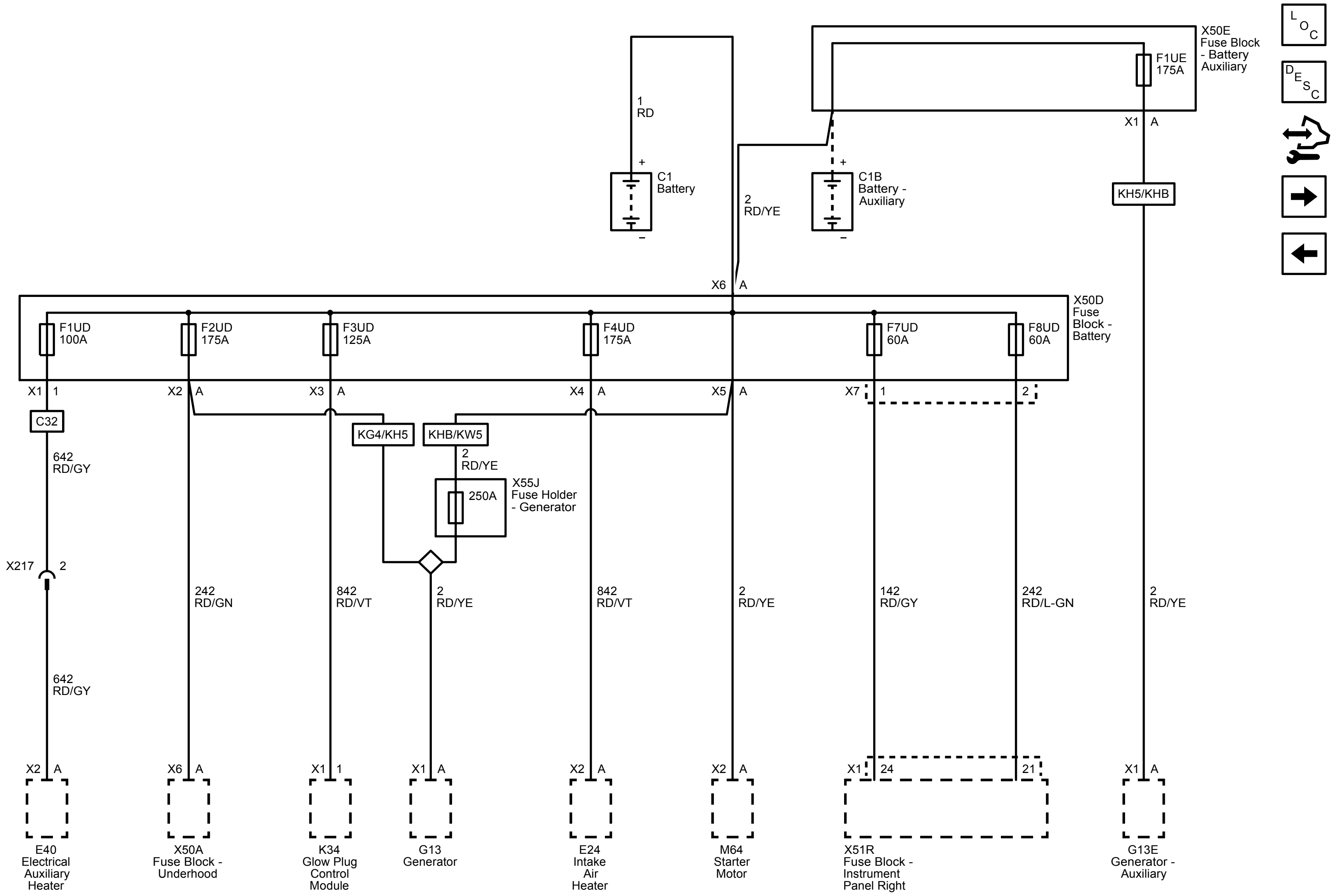
F10DR Fuse (1500)


B+
B+ BUS
X51R Fuse Block - Instrument Panel Right
KR112 Cargo Lamp Relay
F10DR 15A
X2
11
1430 WH/VT
E29
-E29
1430 WH/VT
-DPN/DQS
DPN/DQS
X5
4
X1
17
X61A Junction Block - Instrument Panel
X305
2
J302
X3
7
1430 WH/VT
1430 WH/VT
1430 WH/VT
1430 WH/VT
X138
36
X500
9
X600
9
1430 WH/VT
1430 WH/VT
1430 WH/VT
X317
1
X4XX
1
S0Y/UF2
1430 WH/VT
1430 RD
X510
2
X610
2
1430 WH/VT
1430 WH/VT
E6 Center High Mounted Stop Lamp
1430 WH/VT
J491
1430 RD
1430 RD
1
1
E33L Cargo Lamp - Left
E33R Cargo Lamp - Right
A9A Outside Rearview Mirror - Driver
E70D Outside Rearview Mirror Cargo Lamp - Driver
A9B Outside Rearview Mirror - Passenger
E70P Outside Rearview Mirror Cargo Lamp - Passenger

X50D Fuse Block - Battery (2500/3500 with L96 or LC8)

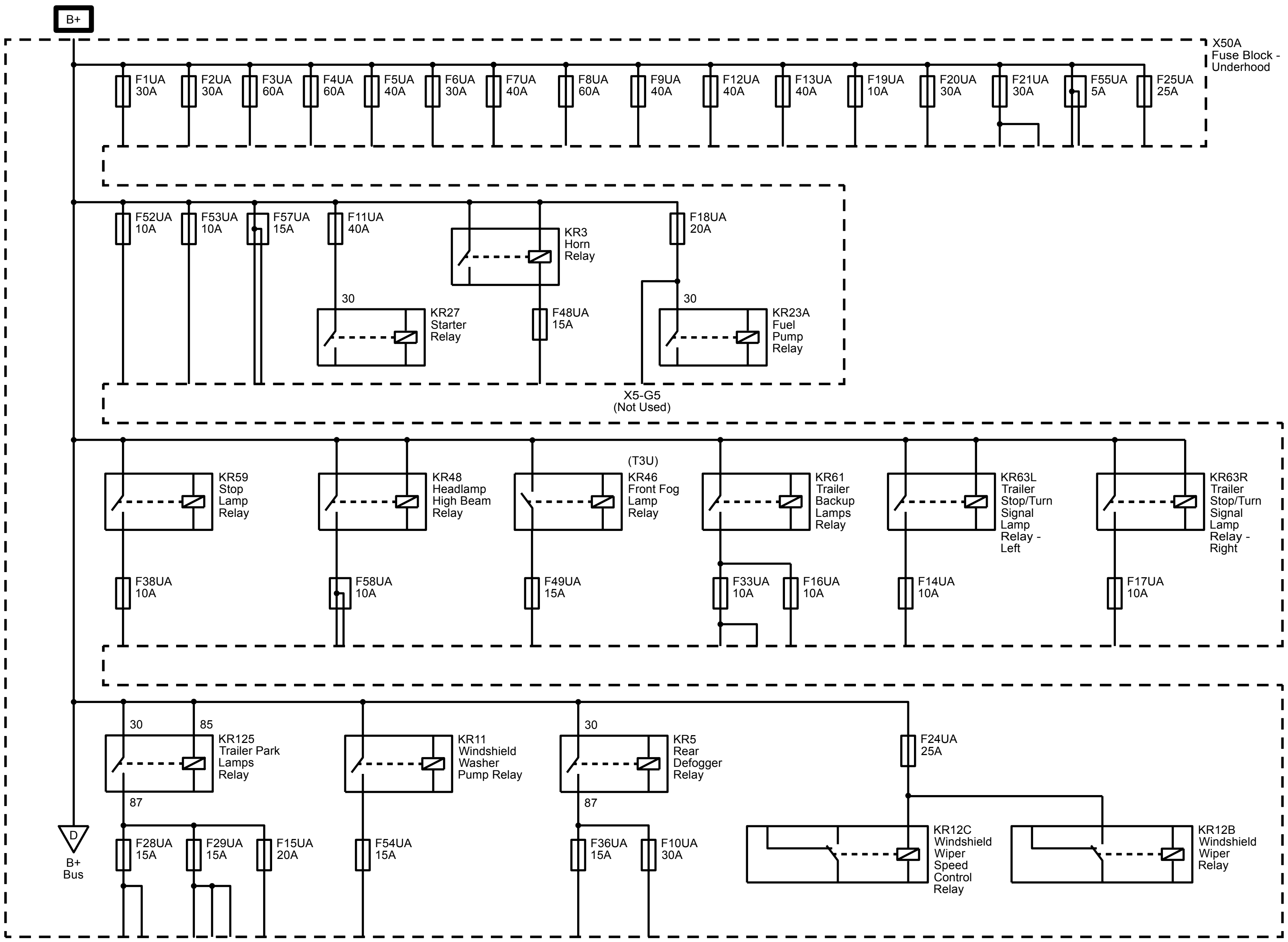

X50D Fuse Block - Battery
F1UD 100A
F2UD 175A
F3UD 125A
F4UD 175A
F7UD 60A
F8UD 60A
X1 1
X2 A
X3 A
X4-A (Not Used)
X5 A
X6 A
X7 1
2
C32
KG4
K4B
KW5
642 RD/GY
X217 2
2 RD/YE
X55J Fuse Holder - Generator
250A
1 RD
+
C1 Battery
−
642 RD/GY
242 RD/GN
242 RD/GN
2 RD/YE
2 RD/YE
142 RD/GY
242 RD/L-GN
X2 A
X6 A
X2 P
X1 A
X2 A
X1 24
21
E40 Electrical Auxiliary Heater
X50A Fuse Block - Underhood
KR79 Auxiliary Battery Relay 2
G13 Generator
M64 Starter Motor
X51R Fuse Block - Instrument Panel Right
LC8
LC8
RD
RD
X55VA Fuse Holder 1 - Alternative Fuel
5A
25A
X55VB Fuse Holder 2 - Alternative Fuel
RD
A
JX101
B
D
C
RD
RD
RD
RD
X199 1
RD
3
X96 Alternative Fuel System Data Connector
12
K119 CNG Control Module
1
3
KR145 Alternative Fuel Injector Relay

X50D Fuse Block - Battery (2500/3500 with LML)



1
RD
C1
Battery
2
RD/YE
C1B
Battery -
Auxiliary
X50E
Fuse Block
- Battery
Auxiliary
F1UE
175A
X1 A
KH5/KHB
X6 A
X50D
Fuse
Block -
Battery
F1UD
100A
F2UD
175A
F3UD
125A
F4UD
175A
F7UD
60A
F8UD
60A
X1 1
X2 A
X3 A
X4 A
X5 A
X7 1
2
C32
KG4/KH5
KHB/KW5
2
RD/YE
X55J
Fuse Holder
- Generator
250A
642
RD/GY
X217 2
242
RD/GN
842
RD/VT
2
RD/YE
842
RD/VT
2
RD/YE
142
RD/GY
242
RD/L-GN
2
RD/YE
642
RD/GY
X2 A
X6 A
X1 1
X1 A
X2 A
X2 A
X1 24
21
X1 A
E40
Electrical
Auxiliary
Heater
X50A
Fuse Block -
Underhood
K34
Glow Plug
Control
Module
G13
Generator
E24
Intake
Air
Heater
M64
Starter
Motor
X51R
Fuse Block -
Instrument
Panel Right
G13E
Generator -
Auxiliary

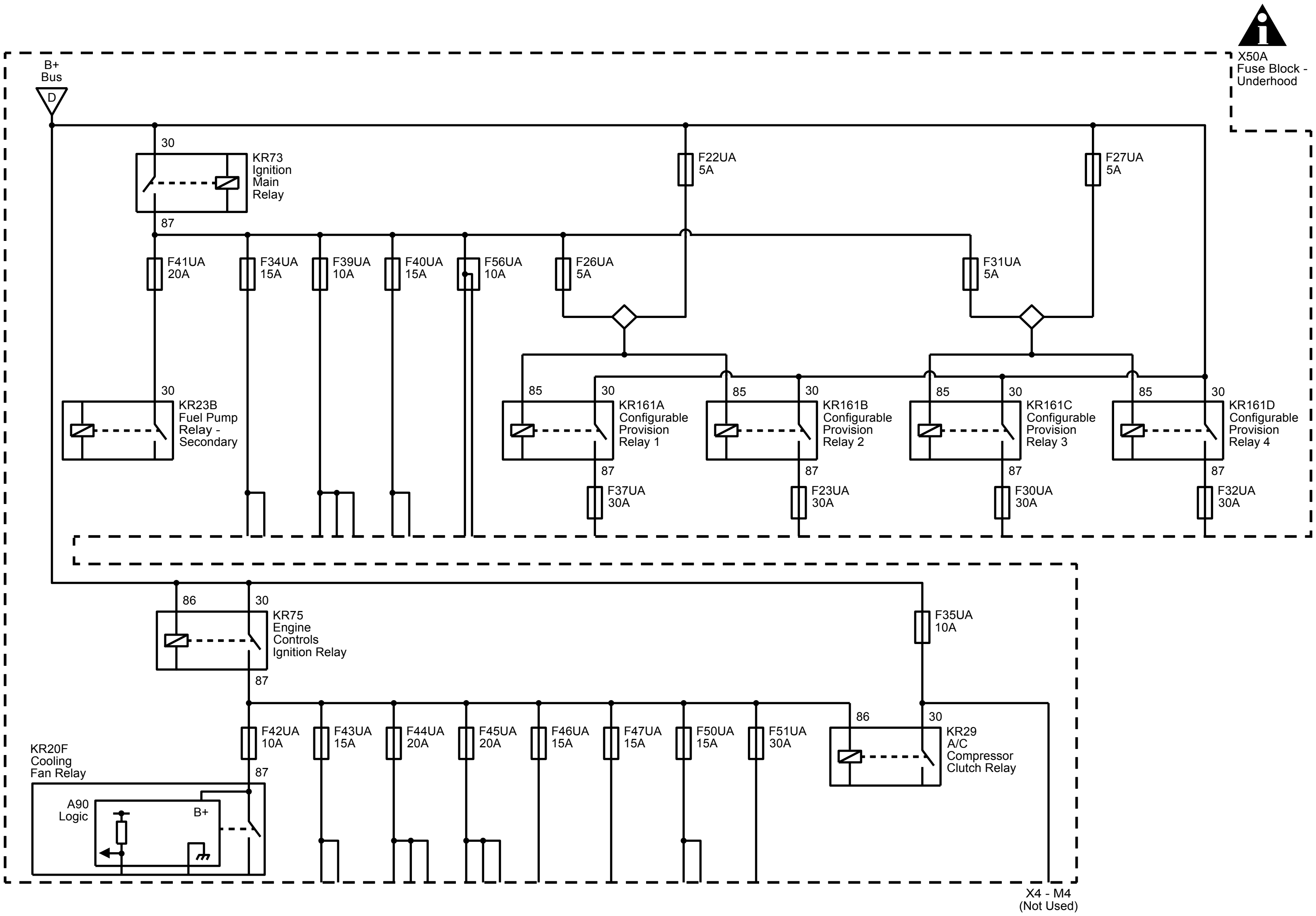
B+ Bus X50A Fuse Block - Underhood 1 of 2 (2500/3500)


B+
X50A
Fuse Block -
Underhood
F1UA 30A
F2UA 30A
F3UA 60A
F4UA 60A
F5UA 40A
F6UA 30A
F7UA 40A
F8UA 60A
F9UA 40A
F12UA 40A
F13UA 40A
F19UA 10A
F20UA 30A
F21UA 30A
F55UA 5A
F25UA 25A
F52UA 10A
F53UA 10A
F57UA 15A
F11UA 40A
KR3 Horn Relay
F18UA 20A
30
KR27 Starter Relay
F48UA 15A
30
KR23A Fuel Pump Relay
X5-G5
(Not Used)
KR59 Stop Lamp Relay
KR48 Headlamp High Beam Relay
(T3U)
KR46 Front Fog Lamp Relay
KR61 Trailer Backup Lamps Relay
KR63L Trailer Stop/Turn Signal Lamp Relay - Left
KR63R Trailer Stop/Turn Signal Lamp Relay - Right
F38UA 10A
F58UA 10A
F49UA 15A
F33UA 10A
F16UA 10A
F14UA 10A
F17UA 10A
30
85
KR125 Trailer Park Lamps Relay
KR11 Windshield Washer Pump Relay
30
KR5 Rear Defogger Relay
F24UA 25A
87
87
D
B+
Bus
F28UA 15A
F29UA 15A
F15UA 20A
F54UA 15A
F36UA 15A
F10UA 30A
KR12C Windshield Wiper Speed Control Relay
KR12B Windshield Wiper Relay

L O C

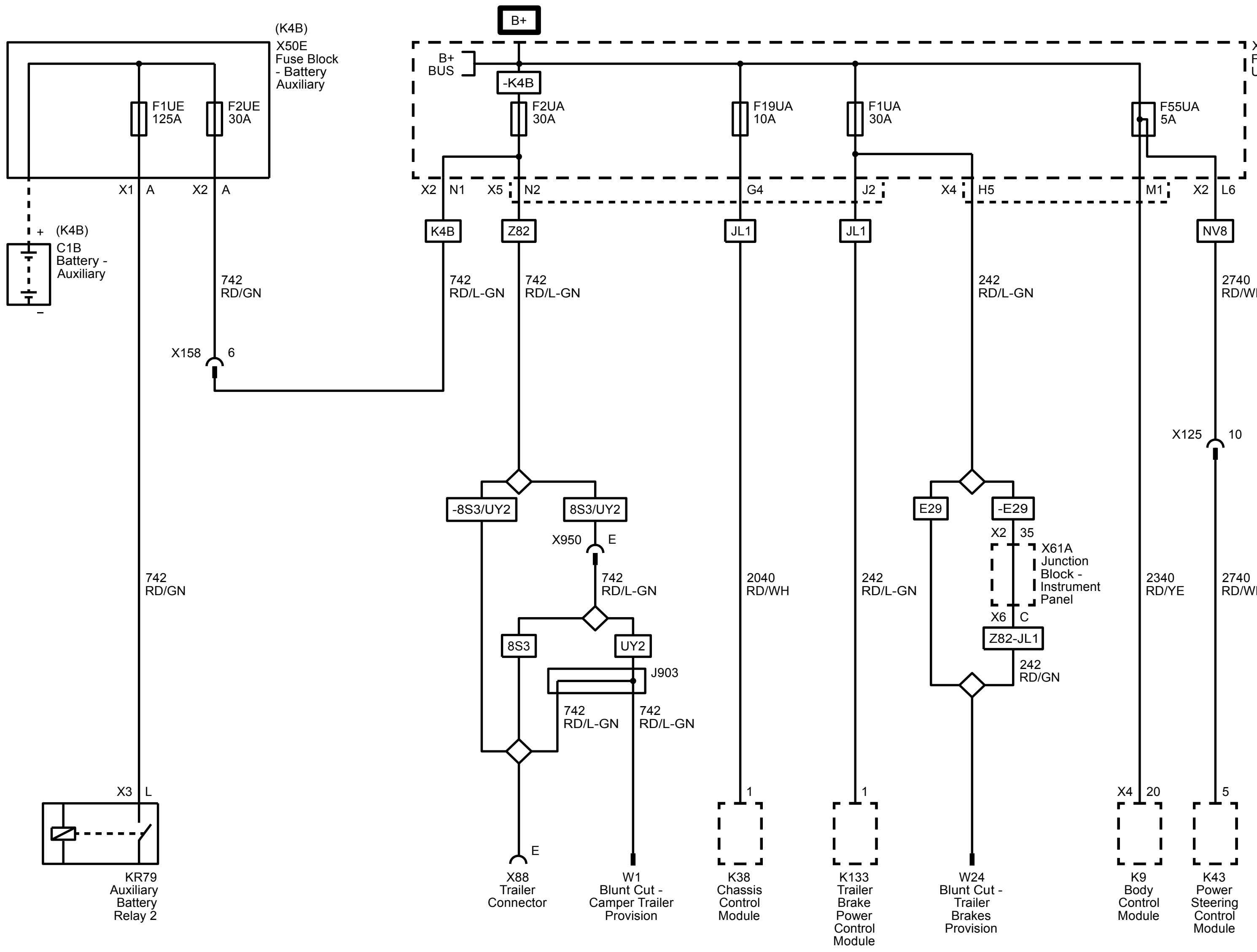
D E S C

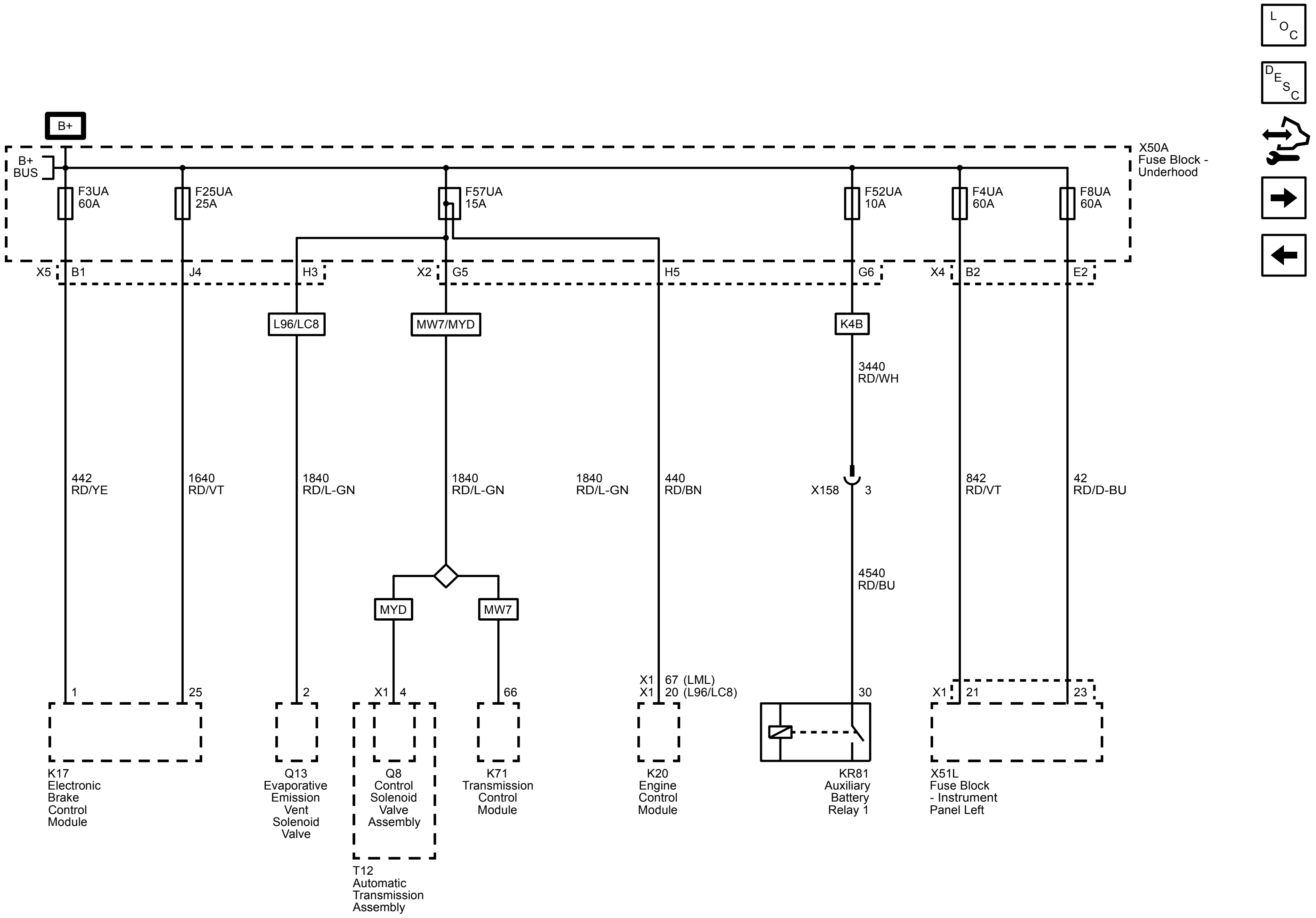
B+ Bus X50A Fuse Block - Underhood 2 of 2 (2500/3500)



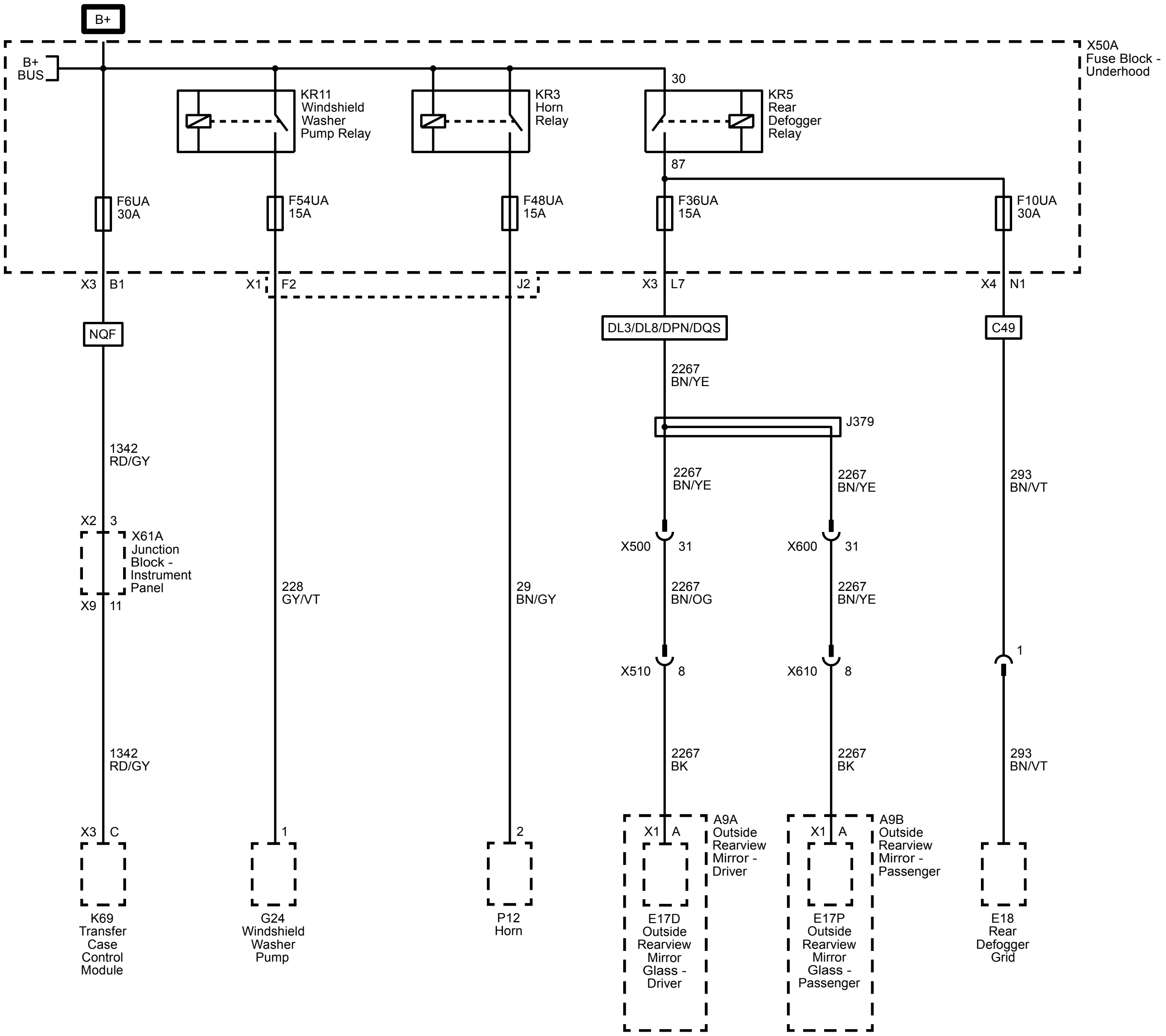
B+ Bus
D
X50A Fuse Block - Underhood
30
KR73 Ignition Main Relay
87
F22UA 5A
F27UA 5A
F41UA 20A
F34UA 15A
F39UA 10A
F40UA 15A
F56UA 10A
F26UA 5A
F31UA 5A
30
KR23B Fuel Pump Relay - Secondary
85
30
KR161A Configurable Provision Relay 1
85
30
KR161B Configurable Provision Relay 2
85
30
KR161C Configurable Provision Relay 3
85
30
KR161D Configurable Provision Relay 4
87
F37UA 30A
87
F23UA 30A
87
F30UA 30A
87
F32UA 30A
86
30
KR75 Engine Controls Ignition Relay
87
F35UA 10A
F42UA 10A
F43UA 15A
F44UA 20A
F45UA 20A
F46UA 15A
F47UA 15A
F50UA 15A
F51UA 30A
86
30
KR29 A/C Compressor Clutch Relay
87
KR20F Cooling Fan Relay
A90 Logic
B+
X4 - M4 (Not Used)

F1UA, F1UE, F2UA, F2UE, F19UA and F55UA Fuses (2500/3500)

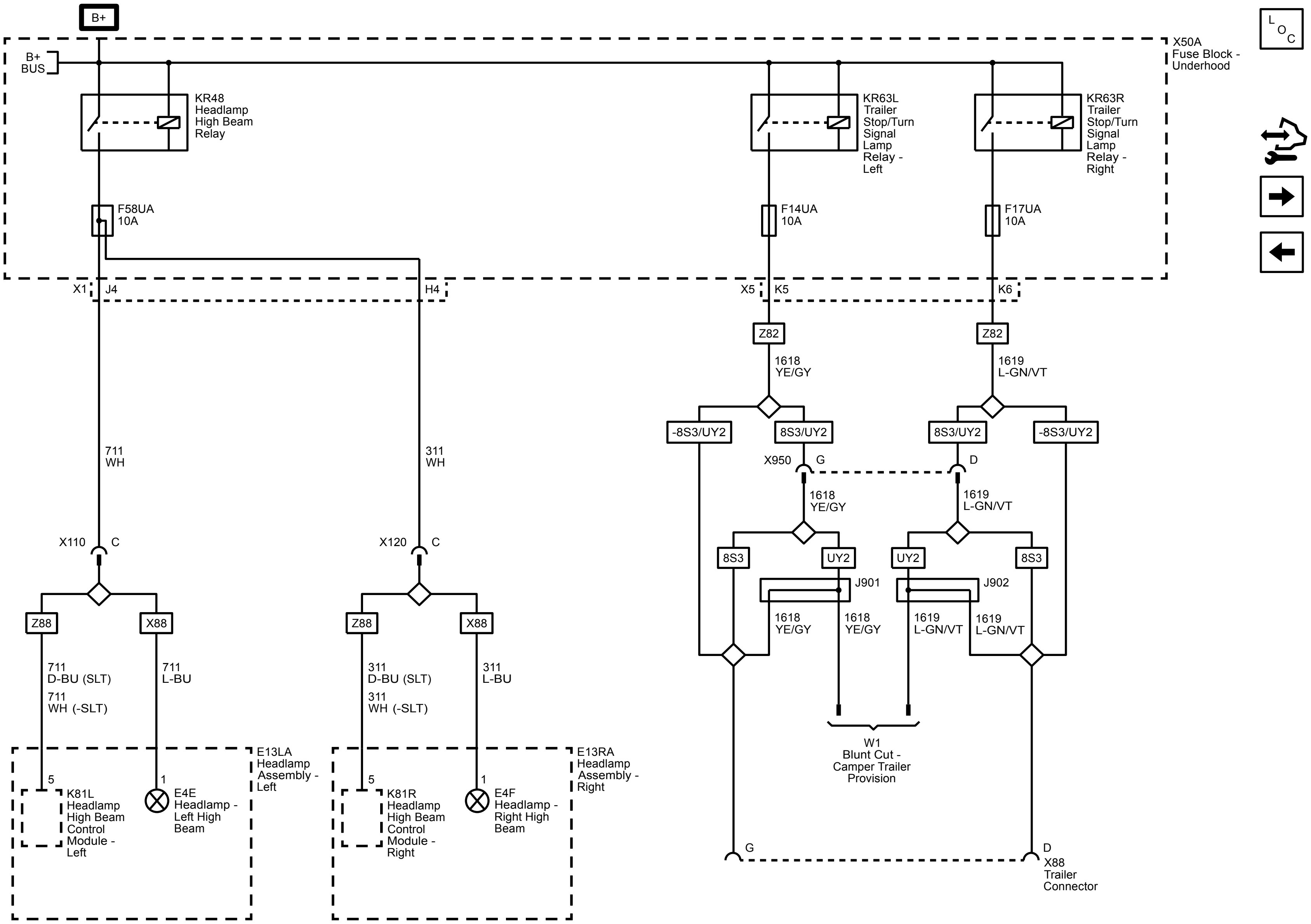

B+
(K4B)
X50E
Fuse Block
- Battery
Auxiliary
F1UE
125A
F2UE
30A
X1
A
X2
A
+
(K4B)
C1B
Battery -
Auxiliary
–
742
RD/GN
X158
6
742
RD/GN
X3
L
KR79
Auxiliary
Battery
Relay 2
B+
BUS
-K4B
F2UA
30A
F19UA
10A
F1UA
30A
F55UA
5A
X50A
Fuse Block -
Underhood
X2
N1
X5
N2
G4
J2
X4
H5
M1
X2
L6
K4B
Z82
JL1
JL1
NV8
742
RD/L-GN
742
RD/L-GN
242
RD/L-GN
2740
RD/WH
X125
10
-8S3/UY2
8S3/UY2
X950
E
742
RD/L-GN
8S3
UY2
J903
742
RD/L-GN
742
RD/L-GN
E
X88
Trailer
Connector
W1
Blunt Cut -
Camper Trailer
Provision
2040
RD/WH
1
K38
Chassis
Control
Module
242
RD/L-GN
1
K133
Trailer
Brake
Power
Control
Module
E29
-E29
X2
35
X61A
Junction
Block -
Instrument
Panel
X6
C
Z82-JL1
242
RD/GN
W24
Blunt Cut -
Trailer
Brakes
Provision
2340
RD/YE
X4
20
K9
Body
Control
Module
2740
RD/WH
5
K43
Power
Steering
Control
Module


L O C
D E S C
B+
B+ BUS
X50A Fuse Block - Underhood
F3UA 60A
F25UA 25A
F57UA 15A
F52UA 10A
F4UA 60A
F8UA 60A
X5
B1
J4
H3
X2
G5
H5
G6
X4
B2
E2
L96/LC8
MW7/MYD
K4B
3440 RD/WH
442 RD/YE
1640 RD/VT
1840 RD/L-GN
1840 RD/L-GN
1840 RD/L-GN
440 RD/BN
X158
3
842 RD/VT
42 RD/D-BU
4540 RD/BU
MYD
MW7
1
25
2
X1
4
66
X1 67 (LML)
X1 20 (L96/LC8)
30
X1
21
23
K17 Electronic Brake Control Module
Q13 Evaporative Emission Vent Solenoid Valve
Q8 Control Solenoid Valve Assembly
K71 Transmission Control Module
K20 Engine Control Module
KR81 Auxiliary Battery Relay 1
X51L Fuse Block - Instrument Panel Left
T12 Automatic Transmission Assembly

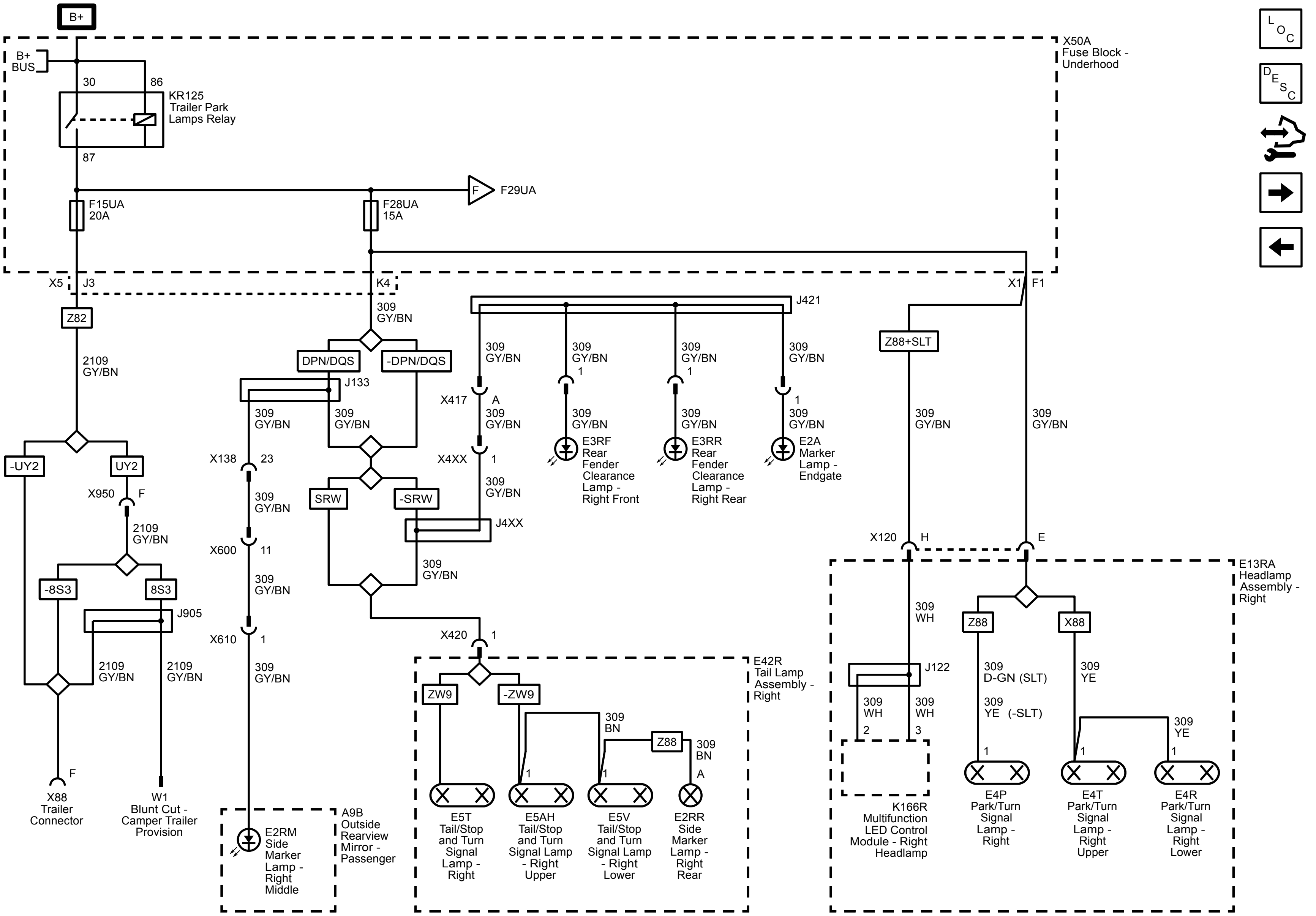
F6UA, F10UA, F36UA, F48UA and F54UA Fuses (2500/3500)


B+
B+ BUS
X50A Fuse Block - Underhood
KR11 Windshield Washer Pump Relay
KR3 Horn Relay
30
KR5 Rear Defogger Relay
87
F6UA 30A
F54UA 15A
F48UA 15A
F36UA 15A
F10UA 30A
X3 B1
X1 F2
J2
X3 L7
X4 N1
NQF
DL3/DL8/DPN/DQS
C49
2267 BN/YE
J379
1342 RD/GY
2267 BN/YE
2267 BN/YE
293 BN/VT
X2 3
X61A Junction Block - Instrument Panel
X9 11
X500 31
X600 31
228 GY/VT
29 BN/GY
2267 BN/OG
2267 BN/YE
X510 8
X610 8
1
1342 RD/GY
2267 BK
2267 BK
293 BN/VT
X3 C
1
2
X1 A
A9A Outside Rearview Mirror - Driver
X1 A
A9B Outside Rearview Mirror - Passenger
K69 Transfer Case Control Module
G24 Windshield Washer Pump
P12 Horn
E17D Outside Rearview Mirror Glass - Driver
E17P Outside Rearview Mirror Glass - Passenger
E18 Rear Defogger Grid

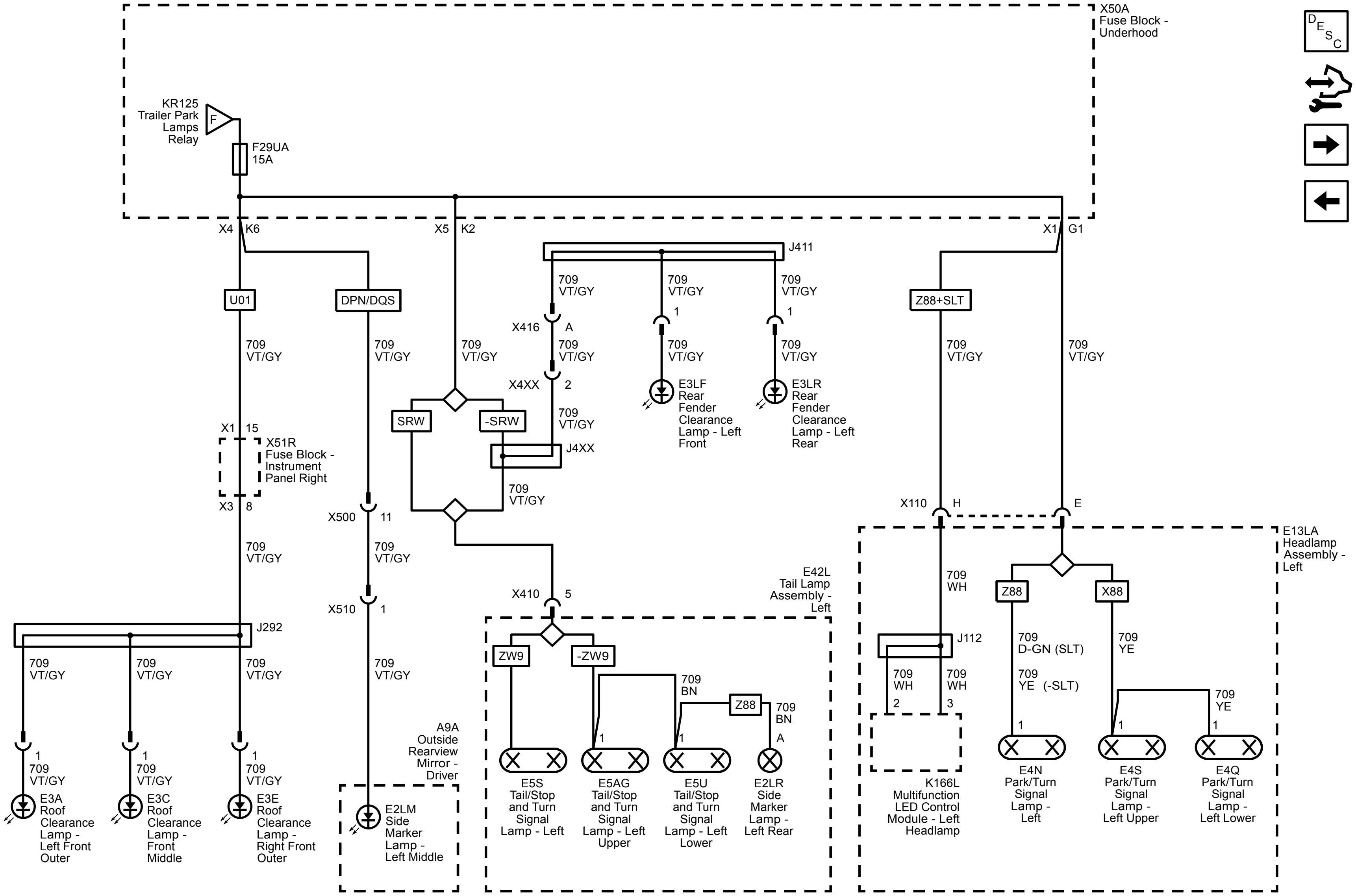
F14UA, F17UA and F58UA Fuses (2500/3500)


B+
B+ BUS
X50A Fuse Block - Underhood
KR48 Headlamp High Beam Relay
KR63L Trailer Stop/Turn Signal Lamp Relay - Left
KR63R Trailer Stop/Turn Signal Lamp Relay - Right
F58UA 10A
F14UA 10A
F17UA 10A
X1 J4
H4
X5 K5
K6
Z82
1618 YE/GY
1619 L-GN/VT
-8S3/UY2
8S3/UY2
X950 G
D
8S3
UY2
J901
J902
711 WH
311 WH
X110 C
X120 C
Z88
X88
711 D-BU (SLT)
711 WH (-SLT)
711 L-BU
311 D-BU (SLT)
311 WH (-SLT)
311 L-BU
E13LA Headlamp Assembly - Left
E13RA Headlamp Assembly - Right
5
1
K81L Headlamp High Beam Control Module - Left
E4E Headlamp - Left High Beam
K81R Headlamp High Beam Control Module - Right
E4F Headlamp - Right High Beam
W1 Blunt Cut - Camper Trailer Provision
G
D
X88 Trailer Connector
LOC

F15UA and F28UA Fuses (2500/3500)

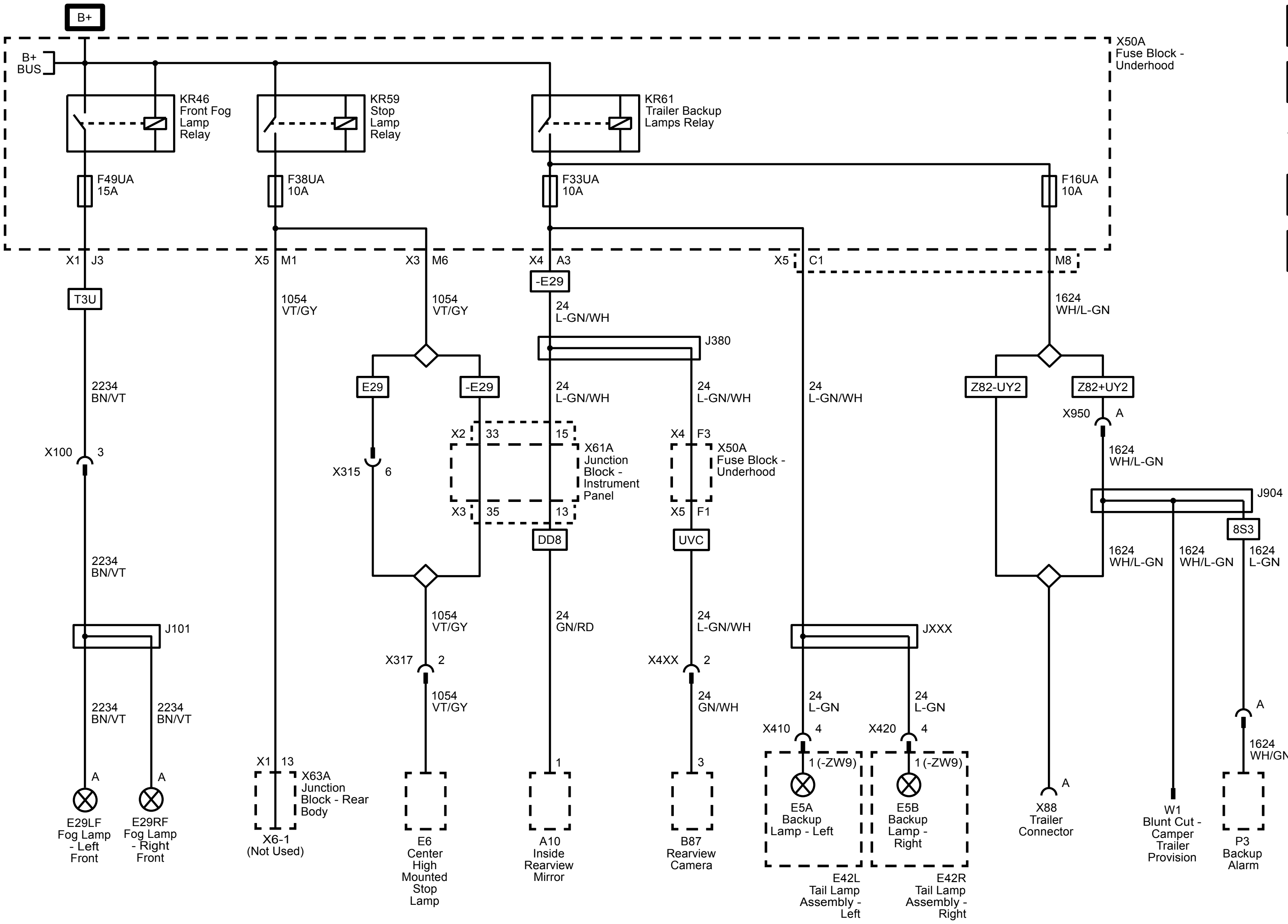

B+
B+ BUS
30
86
KR125 Trailer Park Lamps Relay
87
X50A Fuse Block - Underhood
F
F29UA
F15UA 20A
F28UA 15A
X5
J3
K4
X1
F1
Z82
2109 GY/BN
309 GY/BN
DPN/DQS
-DPN/DQS
J133
J421
309 GY/BN
309 GY/BN 1
309 GY/BN 1
309 GY/BN 1
X417 A
309 GY/BN
X4XX 1
E3RF Rear Fender Clearance Lamp - Right Front
E3RR Rear Fender Clearance Lamp - Right Rear
E2A Marker Lamp - Endgate
Z88+SLT
309 GY/BN
309 GY/BN
-UY2
UY2
X950 F
2109 GY/BN
X138 23
309 GY/BN
309 GY/BN
SRW
-SRW
J4XX
X600 11
309 GY/BN
-8S3
8S3
J905
2109 GY/BN
2109 GY/BN
X610 1
309 GY/BN
X420 1
E42R Tail Lamp Assembly - Right
ZW9
-ZW9
309 BN
Z88
309 BN
A
1
1
F
X88 Trailer Connector
W1 Blunt Cut - Camper Trailer Provision
E2RM Side Marker Lamp - Right Middle
A9B Outside Rearview Mirror - Passenger
E5T Tail/Stop and Turn Signal Lamp - Right
E5AH Tail/Stop and Turn Signal Lamp - Right Upper
E5V Tail/Stop and Turn Signal Lamp - Right Lower
E2RR Side Marker Lamp - Right Rear
X120 H
E
E13RA Headlamp Assembly - Right
309 WH
Z88
X88
J122
309 D-GN (SLT)
309 YE (-SLT)
309 YE
309 YE
309 WH 2
309 WH 3
1
1
1
K166R Multifunction LED Control Module - Right Headlamp
E4P Park/Turn Signal Lamp - Right
E4T Park/Turn Signal Lamp - Right Upper
E4R Park/Turn Signal Lamp - Right Lower

F29UA Fuse (2500/3500)

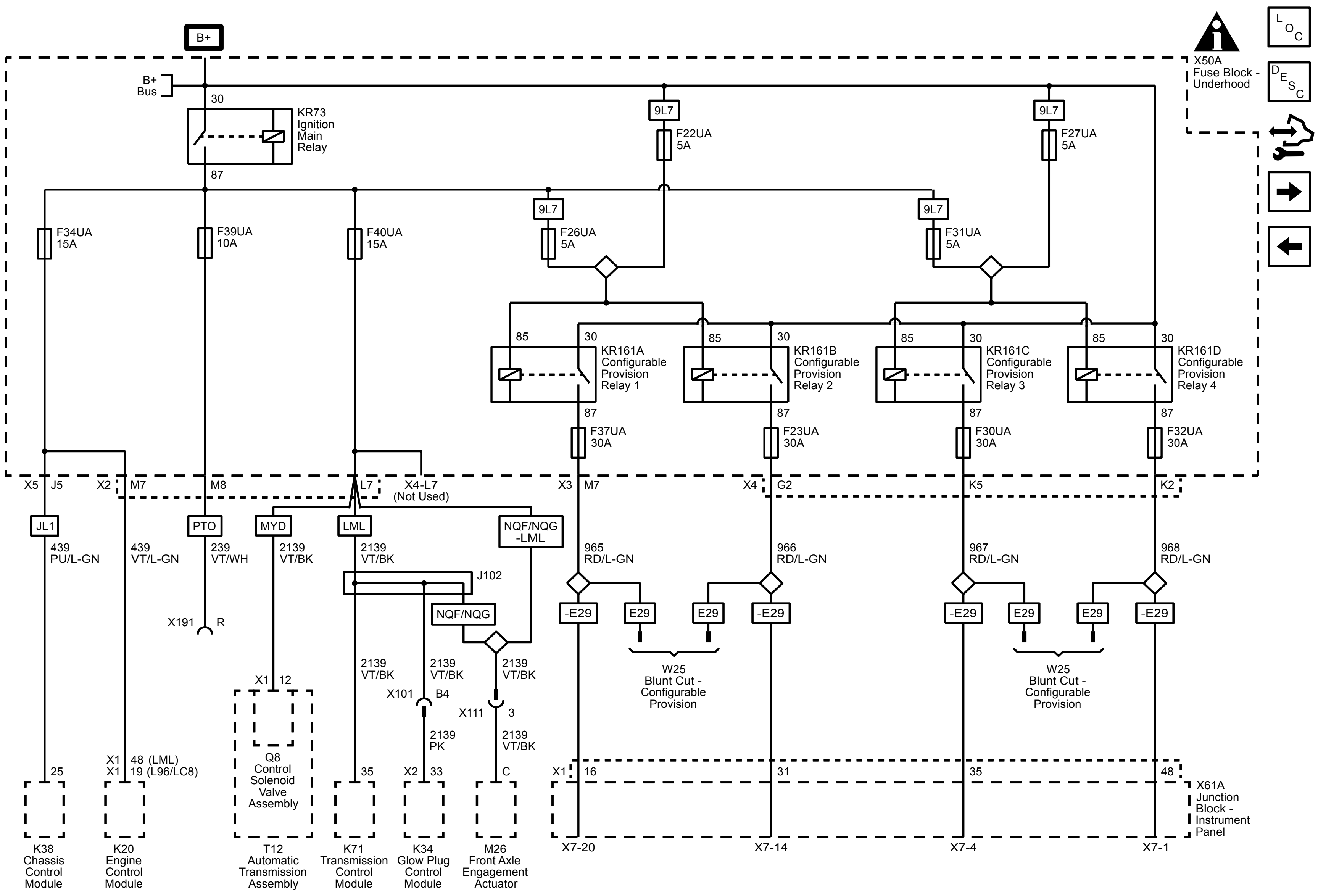


X50A Fuse Block - Underhood
KR125 Trailer Park Lamps Relay
F
F29UA 15A
X4 K6
X5 K2
X1 G1
J411
U01
DPN/DQS
Z88+SLT
709 VT/GY
X416 A
1
X4XX 2
SRW
-SRW
J4XX
E3LF Rear Fender Clearance Lamp - Left Front
E3LR Rear Fender Clearance Lamp - Left Rear
X1 15
X51R Fuse Block - Instrument Panel Right
X3 8
X500 11
X510 1
X110 H
E
E13LA Headlamp Assembly - Left
709 WH
X410 5
E42L Tail Lamp Assembly - Left
J292
ZW9
-ZW9
709 BN
Z88
A
J112
Z88
X88
709 D-GN (SLT)
709 YE (-SLT)
709 YE
2
3
A9A Outside Rearview Mirror - Driver
E3A Roof Clearance Lamp - Left Front Outer
E3C Roof Clearance Lamp - Front Middle
E3E Roof Clearance Lamp - Right Front Outer
E2LM Side Marker Lamp - Left Middle
E5S Tail/Stop and Turn Signal Lamp - Left
E5AG Tail/Stop and Turn Signal Lamp - Left Upper
E5U Tail/Stop and Turn Signal Lamp - Left Lower
E2LR Side Marker Lamp - Left Rear
K166L Multifunction LED Control Module - Left Headlamp
E4N Park/Turn Signal Lamp - Left
E4S Park/Turn Signal Lamp - Left Upper
E4Q Park/Turn Signal Lamp - Left Lower

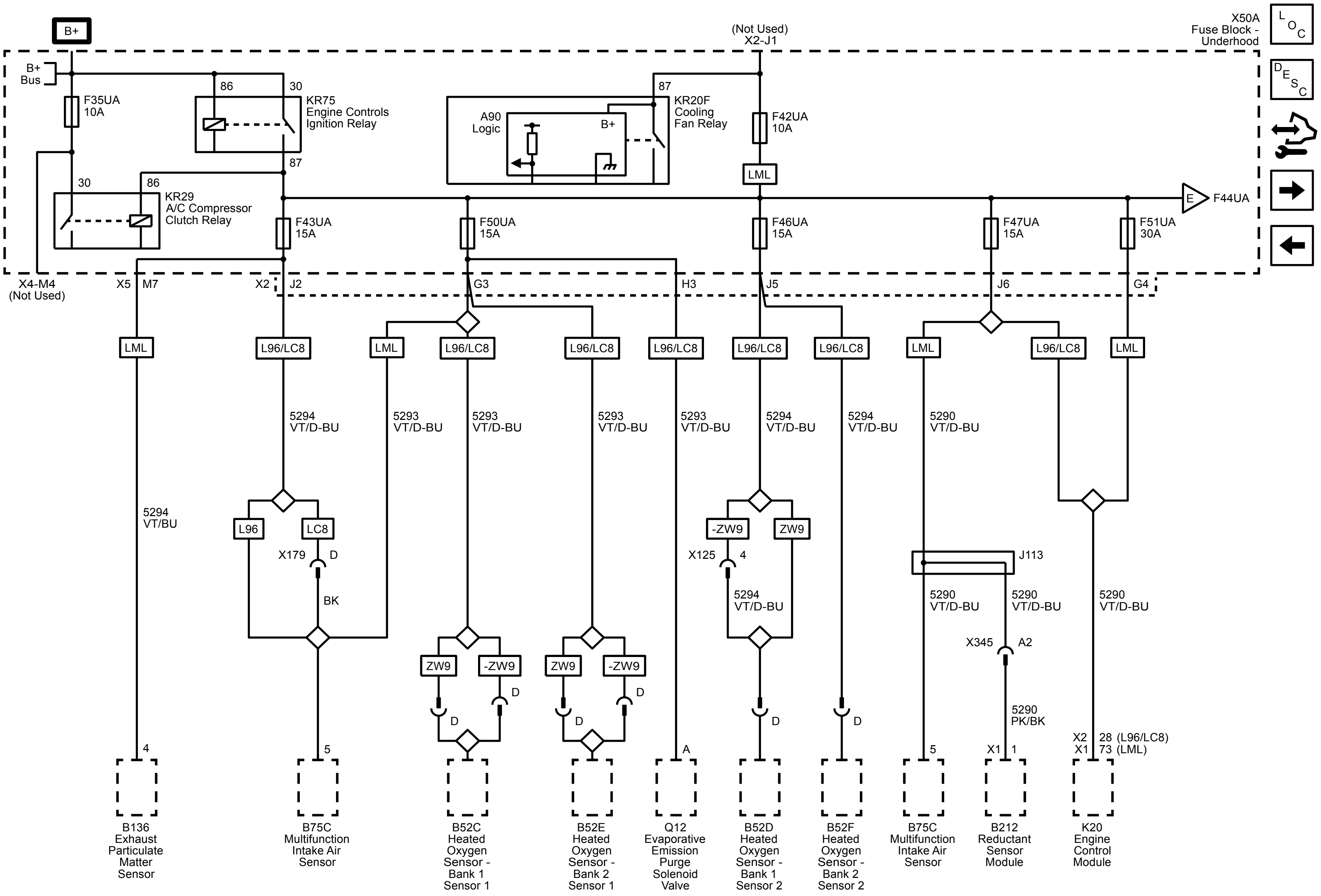
F16UA, F33UA, F38UA and F49UA Fuses (2500/3500)


B+
B+ BUS
X50A Fuse Block - Underhood
KR46 Front Fog Lamp Relay
KR59 Stop Lamp Relay
KR61 Trailer Backup Lamps Relay
F49UA 15A
F38UA 10A
F33UA 10A
F16UA 10A
X1 J3
X5 M1
X3 M6
X4 A3
X5 C1
M8
T3U
-E29
1054 VT/GY
1054 VT/GY
24 L-GN/WH
1624 WH/L-GN
J380
E29
-E29
Z82-UY2
Z82+UY2
2234 BN/VT
24 L-GN/WH
24 L-GN/WH
24 L-GN/WH
X950 A
1624 WH/L-GN
X100 3
X2 33 15
X61A Junction Block - Instrument Panel
X4 F3
X50A Fuse Block - Underhood
X315 6
X3 35 13
X5 F1
J904
8S3
DD8
UVC
2234 BN/VT
1624 WH/L-GN
1624 WH/L-GN
1624 L-GN
1054 VT/GY
24 GN/RD
24 L-GN/WH
J101
JXXX
X317 2
X4XX 2
2234 BN/VT
2234 BN/VT
1054 VT/GY
24 GN/WH
24 L-GN
24 L-GN
A
X410 4
X420 4
X1 13
1
3
1 (-ZW9)
1 (-ZW9)
1624 WH/GN
A
A
A
X63A Junction Block - Rear Body
E29LF Fog Lamp - Left Front
E29RF Fog Lamp - Right Front
X6-1 (Not Used)
E6 Center High Mounted Stop Lamp
A10 Inside Rearview Mirror
B87 Rearview Camera
E5A Backup Lamp - Left
E5B Backup Lamp - Right
E42L Tail Lamp Assembly - Left
E42R Tail Lamp Assembly - Right
X88 Trailer Connector
W1 Blunt Cut - Camper Trailer Provision
P3 Backup Alarm

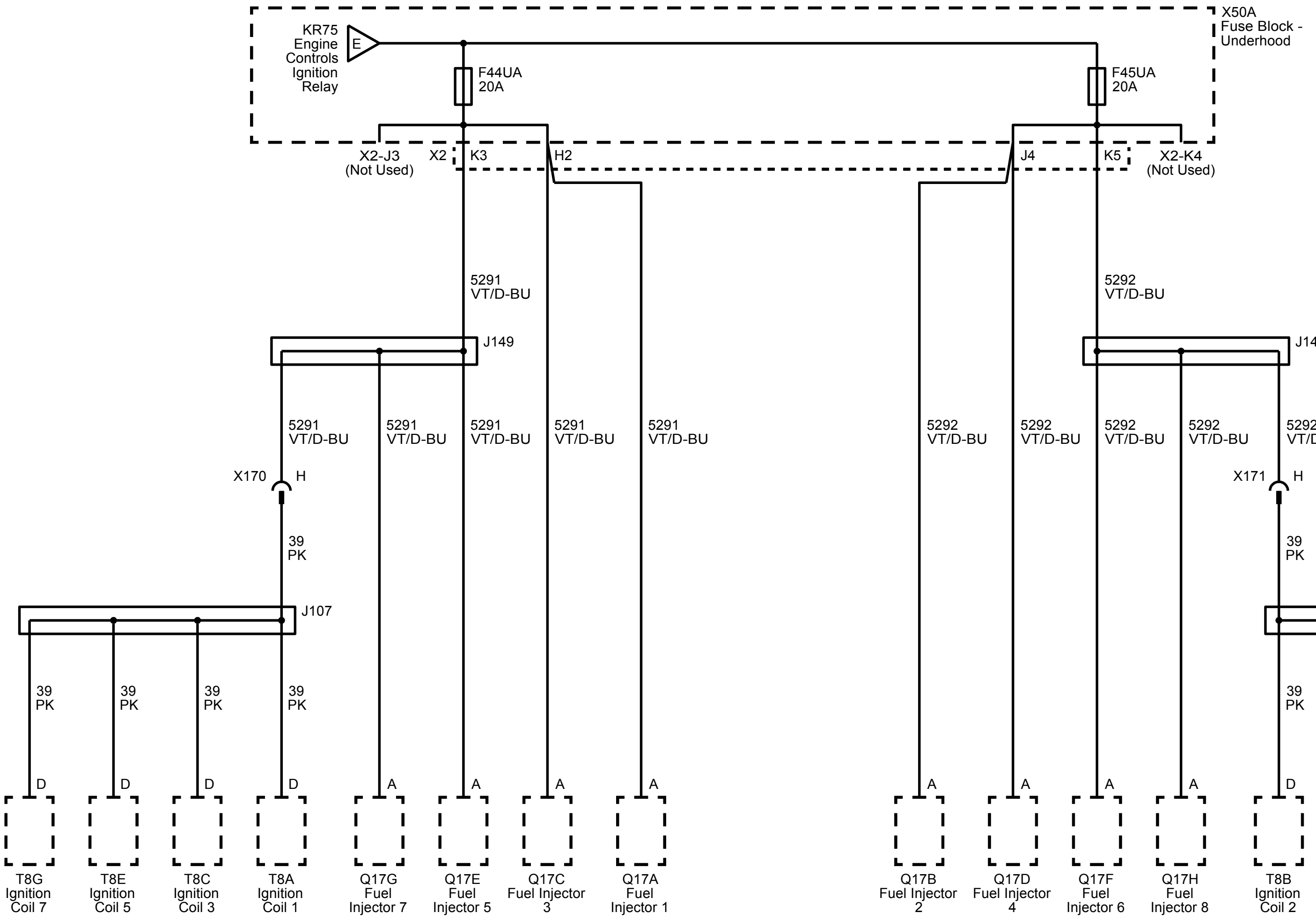
F22UA, F23UA, F26UA, F27UA, F30UA, F31UA, F32UA, F34UA, F37UA, F39UA and F40UA Fuses (2500/3500)


B+
B+ Bus
30
KR73 Ignition Main Relay
87
9L7
F22UA 5A
9L7
F27UA 5A
X50A Fuse Block - Underhood
LOC
DESC
F34UA 15A
F39UA 10A
F40UA 15A
9L7
F26UA 5A
9L7
F31UA 5A
85
30
KR161A Configurable Provision Relay 1
85
30
KR161B Configurable Provision Relay 2
85
30
KR161C Configurable Provision Relay 3
85
30
KR161D Configurable Provision Relay 4
87
F37UA 30A
87
F23UA 30A
87
F30UA 30A
87
F32UA 30A
X5 J5
X2 M7
M8
L7
X4-L7 (Not Used)
X3 M7
X4 G2
K5
K2
JL1
PTO
MYD
LML
NQF/NQG -LML
439 PU/L-GN
439 VT/L-GN
239 VT/WH
2139 VT/BK
2139 VT/BK
J102
NQF/NQG
965 RD/L-GN
966 RD/L-GN
967 RD/L-GN
968 RD/L-GN
-E29
E29
E29
-E29
-E29
E29
E29
-E29
X191 R
W25 Blunt Cut - Configurable Provision
W25 Blunt Cut - Configurable Provision
2139 VT/BK
2139 VT/BK
2139 VT/BK
X101 B4
X111 3
2139 PK
2139 VT/BK
X1 12
Q8 Control Solenoid Valve Assembly
25
X1 48 (LML)
X1 19 (L96/LC8)
35
X2 33
C
X1 16
31
35
48
X61A Junction Block - Instrument Panel
X7-20
X7-14
X7-4
X7-1
K38 Chassis Control Module
K20 Engine Control Module
T12 Automatic Transmission Assembly
K71 Transmission Control Module
K34 Glow Plug Control Module
M26 Front Axle Engagement Actuator

F35UA, F42UA, F43UA, F46UA, F47UA, F50UA and F51UA Fuses (2500/3500)


B+
B+ Bus
F35UA 10A
86
30
KR75 Engine Controls Ignition Relay
87
30
86
KR29 A/C Compressor Clutch Relay
A90 Logic
B+
87
KR20F Cooling Fan Relay
(Not Used) X2-J1
F42UA 10A
LML
X50A Fuse Block - Underhood
E
F44UA
F43UA 15A
F50UA 15A
F46UA 15A
F47UA 15A
F51UA 30A
X4-M4 (Not Used)
X5
M7
X2
J2
G3
H3
J5
J6
G4
LML
L96/LC8
LML
L96/LC8
L96/LC8
L96/LC8
L96/LC8
L96/LC8
LML
L96/LC8
LML
5294 VT/D-BU
5293 VT/D-BU
5293 VT/D-BU
5293 VT/D-BU
5293 VT/D-BU
5294 VT/D-BU
5294 VT/D-BU
5290 VT/D-BU
5294 VT/BU
L96
LC8
X179
D
BK
-ZW9
ZW9
X125
4
5294 VT/D-BU
J113
5290 VT/D-BU
5290 VT/D-BU
5290 VT/D-BU
X345
A2
ZW9
-ZW9
D
ZW9
-ZW9
D
D
D
D
D
5290 PK/BK
4
5
A
5
X1
1
X2 28 (L96/LC8)
X1 73 (LML)
B136 Exhaust Particulate Matter Sensor
B75C Multifunction Intake Air Sensor
B52C Heated Oxygen Sensor - Bank 1 Sensor 1
B52E Heated Oxygen Sensor - Bank 2 Sensor 1
Q12 Evaporative Emission Purge Solenoid Valve
B52D Heated Oxygen Sensor - Bank 1 Sensor 2
B52F Heated Oxygen Sensor - Bank 2 Sensor 2
B75C Multifunction Intake Air Sensor
B212 Reductant Sensor Module
K20 Engine Control Module
LOC
DESC

F43UA and F44UA Fuses (2500/3500 with L96)



X50A
Fuse Block -
Underhood
KR75
Engine
Controls
Ignition
Relay
E
F44UA
20A
F45UA
20A
X2-J3
(Not Used)
X2
K3
H2
J4
K5
X2-K4
(Not Used)
5291
VT/D-BU
5292
VT/D-BU
J149
J148
5291
VT/D-BU
5291
VT/D-BU
5291
VT/D-BU
5291
VT/D-BU
5291
VT/D-BU
5292
VT/D-BU
5292
VT/D-BU
5292
VT/D-BU
5292
VT/D-BU
5292
VT/D-BU
X170
H
X171
H
39
PK
39
PK
J107
J106
39
PK
39
PK
39
PK
39
PK
39
PK
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PK
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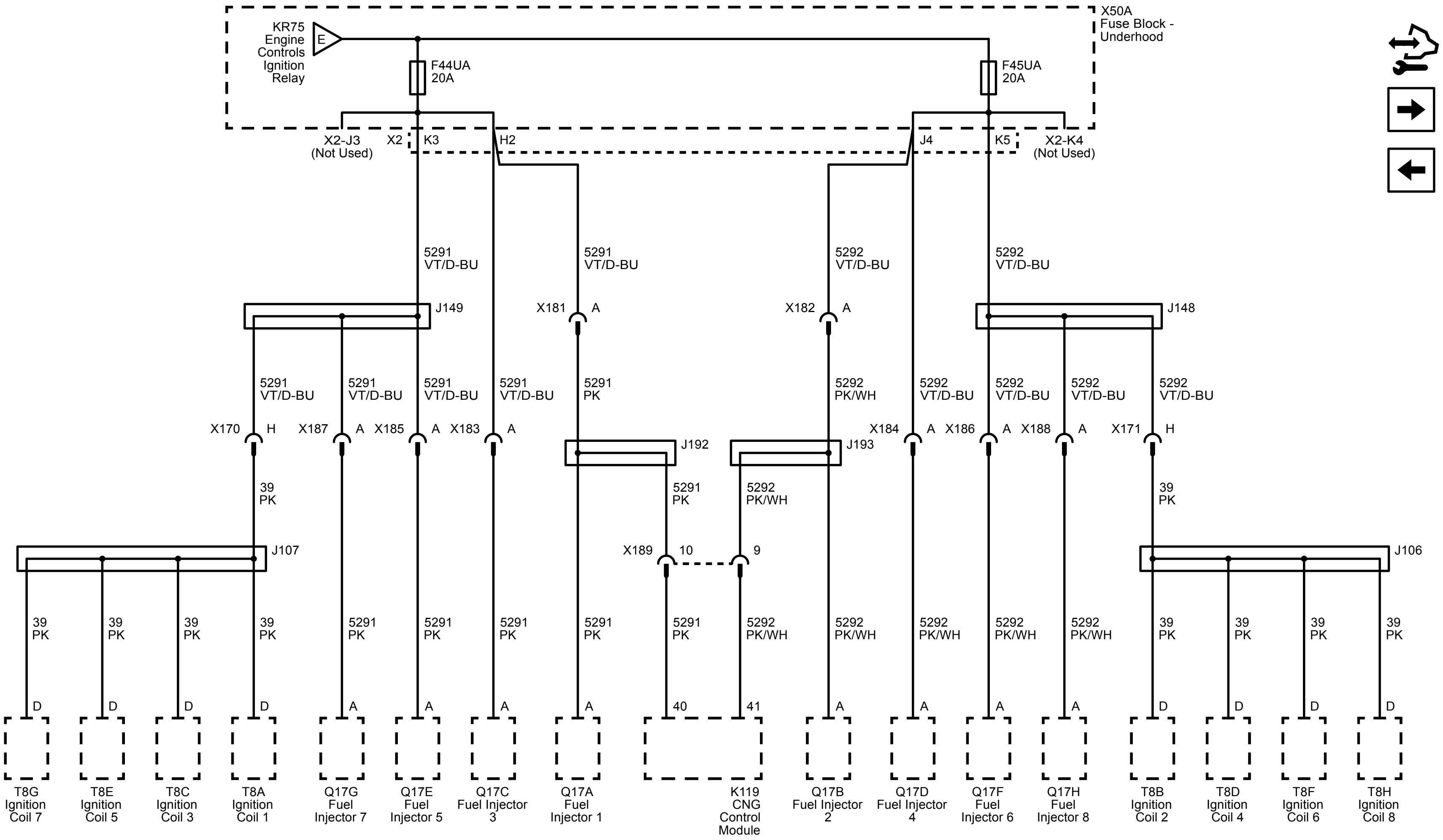
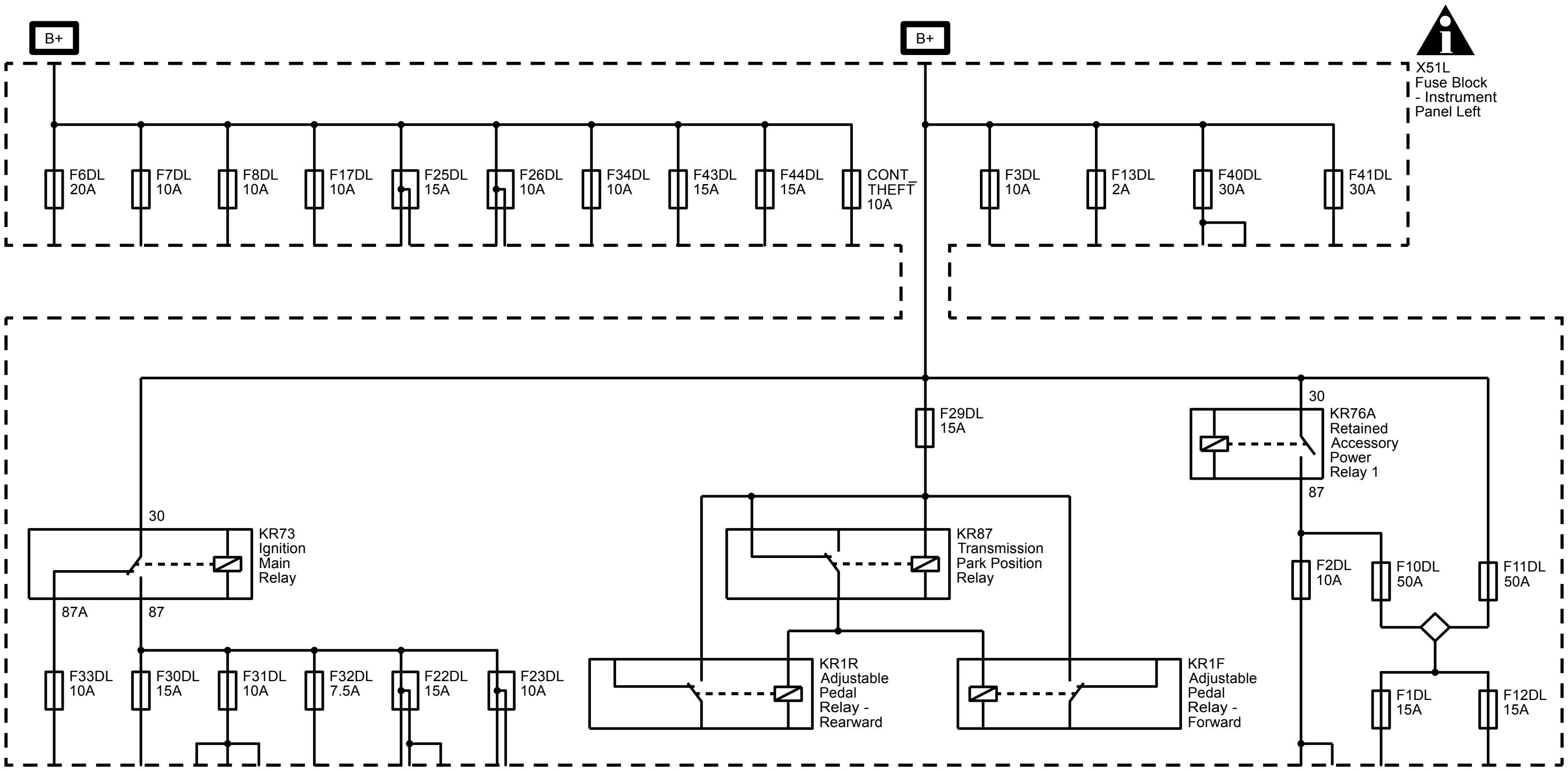
PK
39
PK
D
D
D
D
A
A
A
A
A
A
A
A
D
D
D
D
T8G
Ignition
Coil 7
T8E
Ignition
Coil 5
T8C
Ignition
Coil 3
T8A
Ignition
Coil 1
Q17G
Fuel
Injector 7
Q17E
Fuel
Injector 5
Q17C
Fuel Injector
3
Q17A
Fuel
Injector 1
Q17B
Fuel Injector
2
Q17D
Fuel Injector
4
Q17F
Fuel
Injector 6
Q17H
Fuel
Injector 8
T8B
Ignition
Coil 2
T8D
Ignition
Coil 4
T8F
Ignition
Coil 6
T8H
Ignition
Coil 8

F43UA and F44UA Fuses (2500/3500 with LC8)

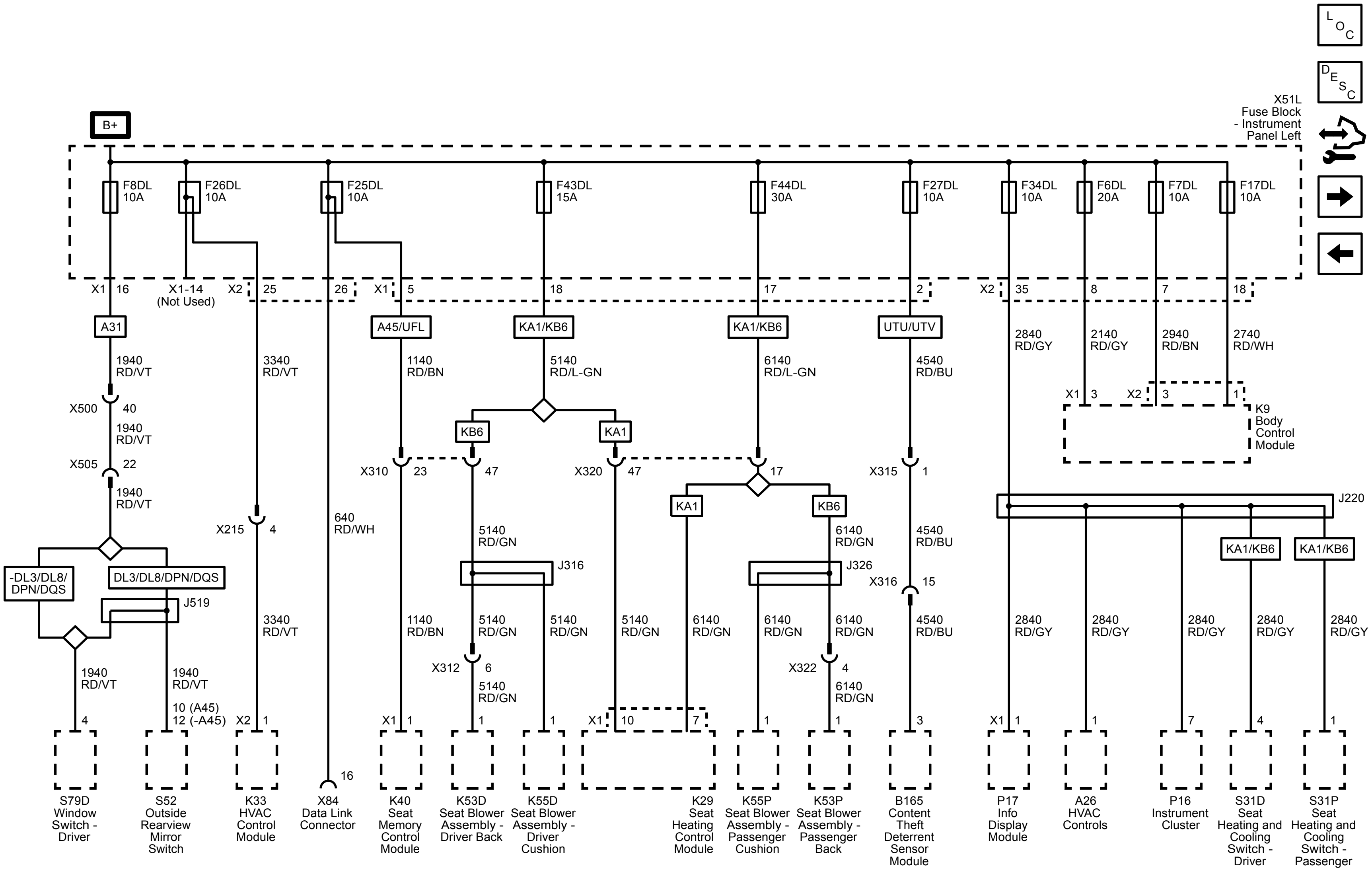

X50A
Fuse Block - Underhood
KR75 Engine Controls Ignition Relay
E
F44UA 20A
F45UA 20A
X2-J3 (Not Used)
X2
K3
H2
J4
K5
X2-K4 (Not Used)
5291 VT/D-BU
5291 VT/D-BU
5292 VT/D-BU
5292 VT/D-BU
J149
X181
A
X182
A
J148
5291 VT/D-BU
5291 VT/D-BU
5291 VT/D-BU
5291 VT/D-BU
5291 PK
5292 PK/WH
5292 VT/D-BU
5292 VT/D-BU
5292 VT/D-BU
5292 VT/D-BU
X170
H
X187
A
X185
A
X183
A
J192
J193
X184
A
X186
A
X188
A
X171
H
39 PK
5291 PK
5292 PK/WH
39 PK
J107
X189
10
9
J106
39 PK
39 PK
39 PK
39 PK
5291 PK
5291 PK
5291 PK
5291 PK
5291 PK
5292 PK/WH
5292 PK/WH
5292 PK/WH
5292 PK/WH
5292 PK/WH
39 PK
39 PK
39 PK
39 PK
D
D
D
D
A
A
A
A
40
41
A
A
A
A
D
D
D
D
T8G Ignition Coil 7
T8E Ignition Coil 5
T8C Ignition Coil 3
T8A Ignition Coil 1
Q17G Fuel Injector 7
Q17E Fuel Injector 5
Q17C Fuel Injector 3
Q17A Fuel Injector 1
K119 CNG Control Module
Q17B Fuel Injector 2
Q17D Fuel Injector 4
Q17F Fuel Injector 6
Q17H Fuel Injector 8
T8B Ignition Coil 2
T8D Ignition Coil 4
T8F Ignition Coil 6
T8H Ignition Coil 8

B+ Bus X51L Fuse Block - Instrument Panel Left (2500/3500)

LOC
DESC

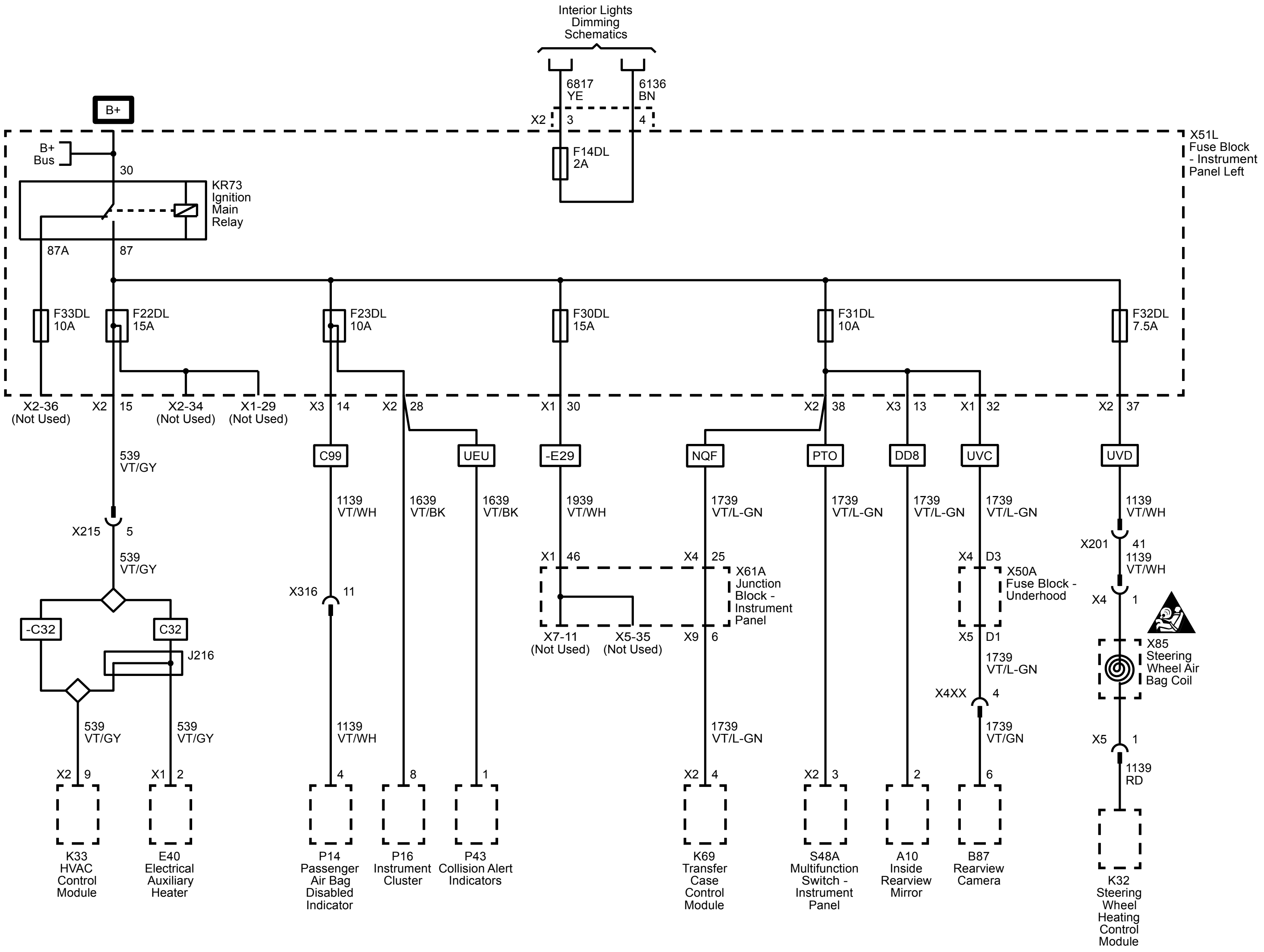

B+
B+
X51L
Fuse Block
- Instrument
Panel Left
F6DL
20A
F7DL
10A
F8DL
10A
F17DL
10A
F25DL
15A
F26DL
10A
F34DL
10A
F43DL
15A
F44DL
15A
CONT_
THEFT
10A
F3DL
10A
F13DL
2A
F40DL
30A
F41DL
30A
F29DL
15A
30
KR76A
Retained
Accessory
Power
Relay 1
87
30
KR73
Ignition
Main
Relay
87A
87
KR87
Transmission
Park Position
Relay
F2DL
10A
F10DL
50A
F11DL
50A
F33DL
10A
F30DL
15A
F31DL
10A
F32DL
7.5A
F22DL
15A
F23DL
10A
KR1R
Adjustable
Pedal
Relay -
Rearward
KR1F
Adjustable
Pedal
Relay -
Forward
F1DL
15A
F12DL
15A

F6DL, F7DL, F8DL, F17DL, F25DL, F26DL, F34DL, F43DL and F44DL Fuses (2500/3500)



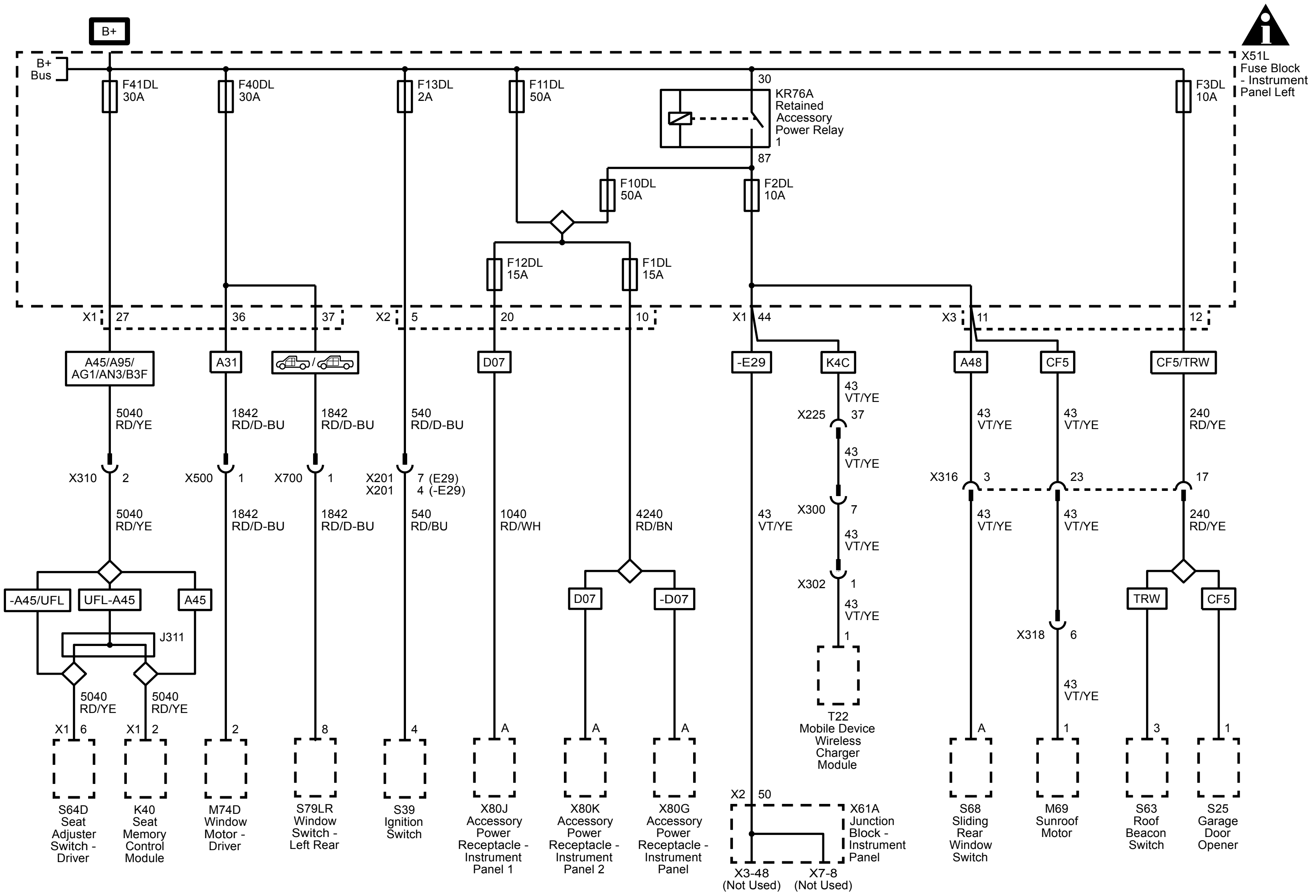
L O C
D E S C
X51L Fuse Block - Instrument Panel Left
B+
F8DL 10A
F26DL 10A
F25DL 10A
F43DL 15A
F44DL 30A
F27DL 10A
F34DL 10A
F6DL 20A
F7DL 10A
F17DL 10A
X1 16
X1-14 (Not Used)
X2 25
26
X1 5
18
17
2
X2 35
8
7
18
A31
A45/UFL
KA1/KB6
KA1/KB6
UTU/UTV
1940 RD/VT
X500 40
1940 RD/VT
X505 22
1940 RD/VT
-DL3/DL8/ DPN/DQS
DL3/DL8/DPN/DQS
J519
1940 RD/VT
1940 RD/VT
10 (A45)
12 (-A45)
3340 RD/VT
X215 4
3340 RD/VT
640 RD/WH
1140 RD/BN
X310 23
1140 RD/BN
5140 RD/L-GN
KB6
KA1
47
5140 RD/GN
J316
5140 RD/GN
5140 RD/GN
X312 6
5140 RD/GN
X320 47
5140 RD/GN
6140 RD/L-GN
17
KA1
KB6
6140 RD/GN
J326
6140 RD/GN
6140 RD/GN
6140 RD/GN
X322 4
6140 RD/GN
4540 RD/BU
X315 1
4540 RD/BU
X316 15
4540 RD/BU
2840 RD/GY
2140 RD/GY
2940 RD/BN
2740 RD/WH
X1 3
X2 3
1
K9 Body Control Module
J220
KA1/KB6
KA1/KB6
2840 RD/GY
2840 RD/GY
2840 RD/GY
2840 RD/GY
2840 RD/GY
4
X2 1
16
X1 1
1
1
X1 10
7
1
1
3
X1 1
1
7
4
1
S79D Window Switch - Driver
S52 Outside Rearview Mirror Switch
K33 HVAC Control Module
X84 Data Link Connector
K40 Seat Memory Control Module
K53D Seat Blower Assembly - Driver Back
K55D Seat Blower Assembly - Driver Cushion
K29 Seat Heating Control Module
K55P Seat Blower Assembly - Passenger Cushion
K53P Seat Blower Assembly - Passenger Back
B165 Content Theft Deterrent Sensor Module
P17 Info Display Module
A26 HVAC Controls
P16 Instrument Cluster
S31D Seat Heating and Cooling Switch - Driver
S31P Seat Heating and Cooling Switch - Passenger

F14DL, F22DL, F23DL, F30DL, F31DL, F32DL and F33DL Fuses (2500/3500)


Interior Lights Dimming Schematics
6817 YE
6136 BN
X2 3
4
F14DL 2A
B+
B+ Bus
30
KR73 Ignition Main Relay
87A
87
X51L Fuse Block - Instrument Panel Left
F33DL 10A
F22DL 15A
F23DL 10A
F30DL 15A
F31DL 10A
F32DL 7.5A
X2-36 (Not Used)
X2 15
X2-34 (Not Used)
X1-29 (Not Used)
X3 14
X2 28
X1 30
X2 38
X3 13
X1 32
X2 37
C99
UEU
-E29
NQF
PTO
DD8
UVC
UVD
539 VT/GY
X215 5
539 VT/GY
-C32
C32
J216
539 VT/GY
539 VT/GY
X2 9
X1 2
K33 HVAC Control Module
E40 Electrical Auxiliary Heater
1139 VT/WH
1639 VT/BK
1639 VT/BK
X316 11
1139 VT/WH
4
8
1
P14 Passenger Air Bag Disabled Indicator
P16 Instrument Cluster
P43 Collision Alert Indicators
1939 VT/WH
X1 46
X4 25
X61A Junction Block - Instrument Panel
X7-11 (Not Used)
X5-35 (Not Used)
X9 6
1739 VT/L-GN
1739 VT/L-GN
X2 4
K69 Transfer Case Control Module
1739 VT/L-GN
X2 3
S48A Multifunction Switch - Instrument Panel
1739 VT/L-GN
2
A10 Inside Rearview Mirror
1739 VT/L-GN
X4 D3
X50A Fuse Block - Underhood
X5 D1
1739 VT/L-GN
X4XX 4
1739 VT/GN
6
B87 Rearview Camera
1139 VT/WH
X201 41
1139 VT/WH
X4 1
X85 Steering Wheel Air Bag Coil
X5 1
1139 RD
K32 Steering Wheel Heating Control Module

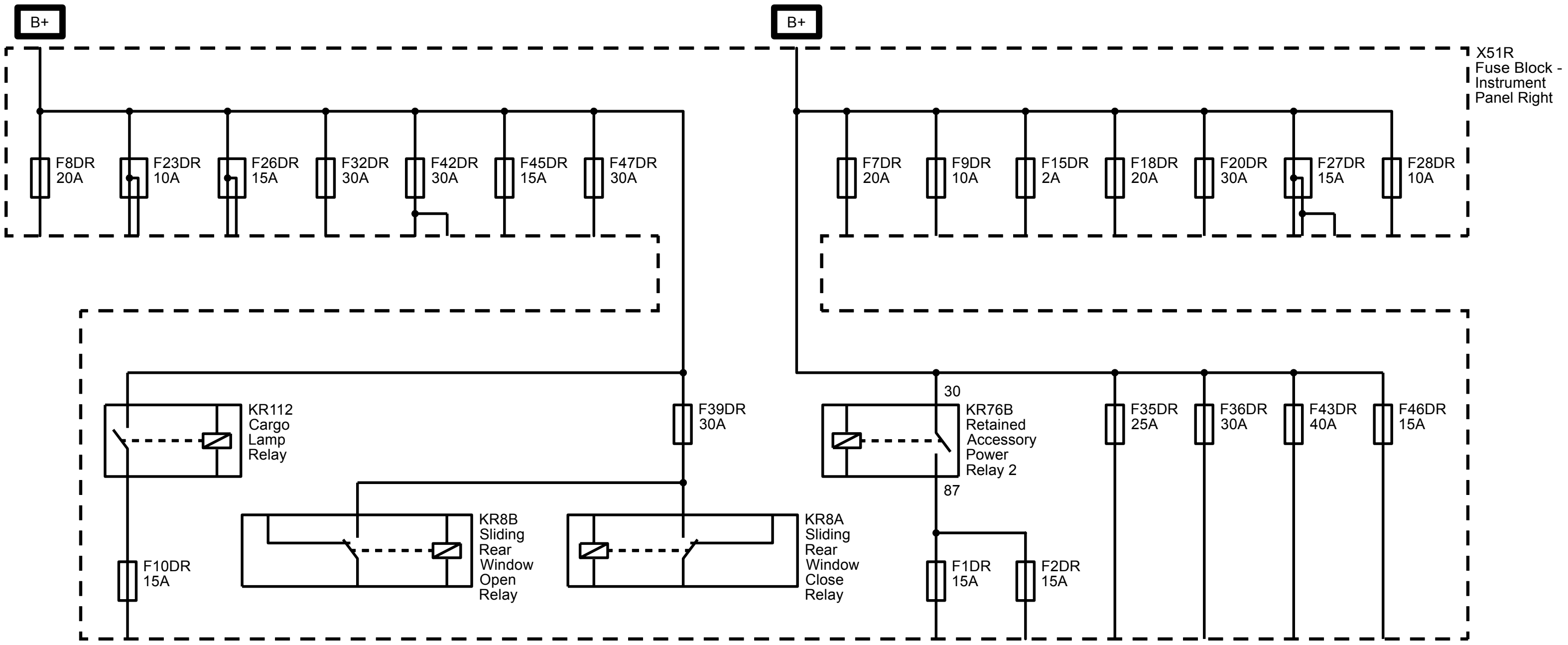
F1DL, F2DL, F3DL, F10DL, F11DL, F12DL, F13DL, F40DL and F41DL Fuses (2500/3500)

LOC
DESC

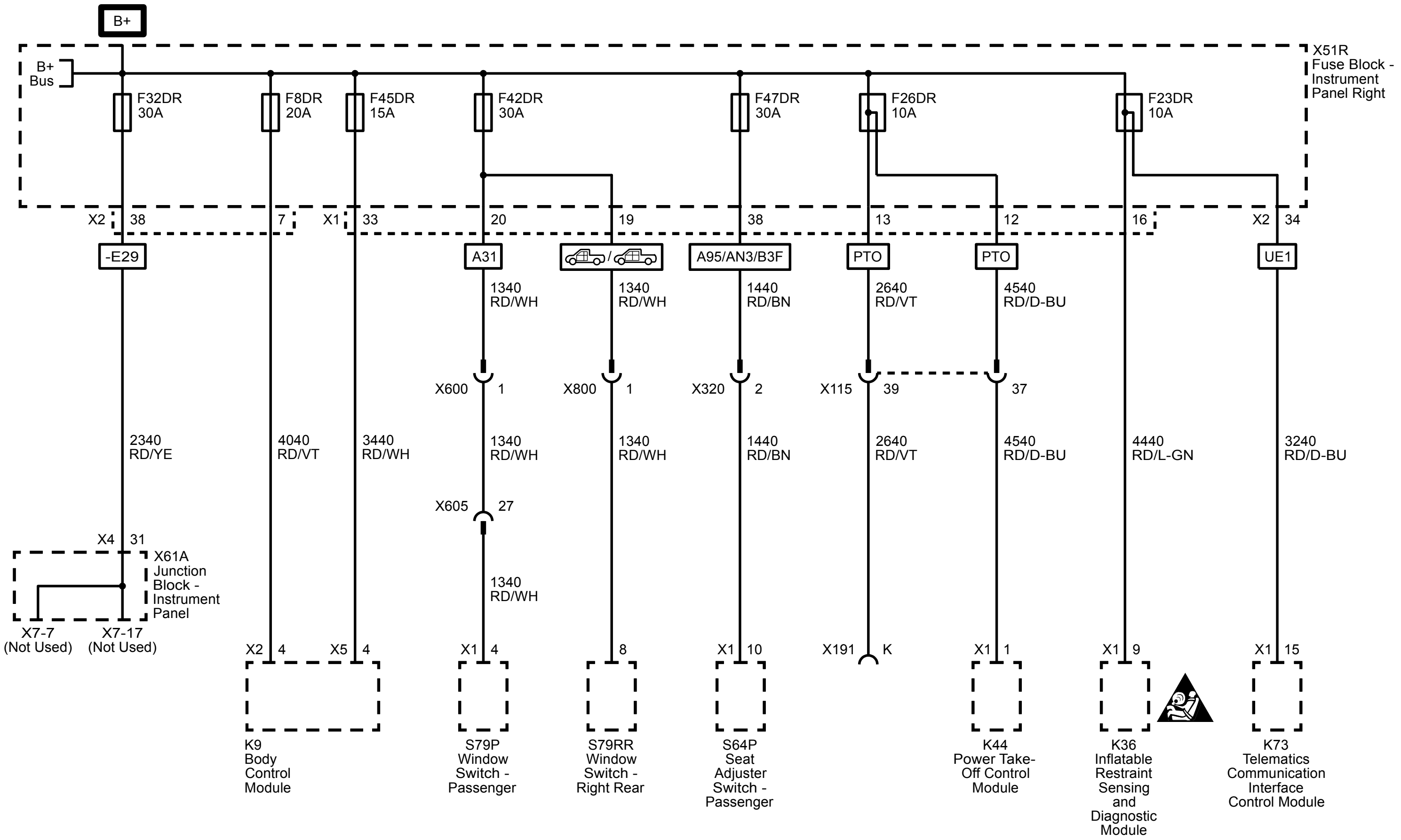

B+
B+ Bus
F41DL 30A
F40DL 30A
F13DL 2A
F11DL 50A
30
KR76A Retained Accessory Power Relay
1
87
F10DL 50A
F2DL 10A
F12DL 15A
F1DL 15A
F3DL 10A
X51L Fuse Block - Instrument Panel Left
X1 27
36
37
X2 5
20
10
X1 44
X3 11
12
A45/A95/ AG1/AN3/B3F
A31
D07
-E29
K4C
A48
CF5
CF5/TRW
5040 RD/YE
1842 RD/D-BU
1842 RD/D-BU
540 RD/D-BU
43 VT/YE
X225 37
43 VT/YE
43 VT/YE
43 VT/YE
240 RD/YE
X310 2
X500 1
X700 1
X201 7 (E29)
X201 4 (-E29)
X316 3
23
17
5040 RD/YE
1842 RD/D-BU
1842 RD/D-BU
540 RD/BU
1040 RD/WH
4240 RD/BN
43 VT/YE
X300 7
43 VT/YE
43 VT/YE
43 VT/YE
240 RD/YE
-A45/UFL
UFL-A45
A45
J311
D07
-D07
X302 1
43 VT/YE
TRW
CF5
X318 6
5040 RD/YE
5040 RD/YE
43 VT/YE
X1 6
X1 2
2
8
4
A
A
A
1
A
1
3
1
S64D Seat Adjuster Switch - Driver
K40 Seat Memory Control Module
M74D Window Motor - Driver
S79LR Window Switch - Left Rear
S39 Ignition Switch
X80J Accessory Power Receptacle - Instrument Panel 1
X80K Accessory Power Receptacle - Instrument Panel 2
X80G Accessory Power Receptacle - Instrument Panel
T22 Mobile Device Wireless Charger Module
X2 50
X61A Junction Block - Instrument Panel
X3-48 (Not Used)
X7-8 (Not Used)
S68 Sliding Rear Window Switch
M69 Sunroof Motor
S63 Roof Beacon Switch
S25 Garage Door Opener

B+ Bus X51R Fuse Block - Instrument Panel Right (2500/3500)

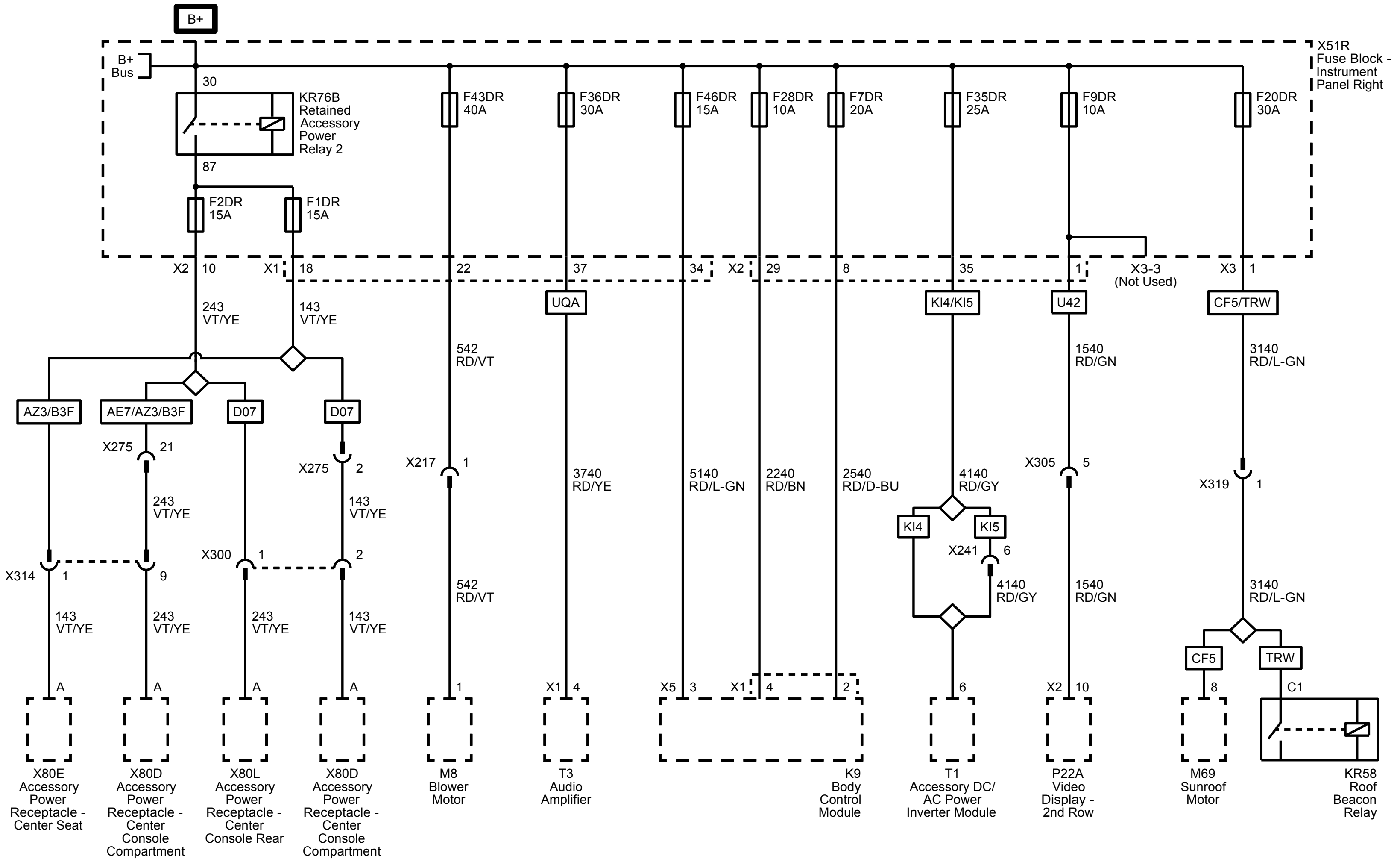
LOC
DESC


B+
B+
X51R
Fuse Block -
Instrument
Panel Right
F8DR
20A
F23DR
10A
F26DR
15A
F32DR
30A
F42DR
30A
F45DR
15A
F47DR
30A
F7DR
20A
F9DR
10A
F15DR
2A
F18DR
20A
F20DR
30A
F27DR
15A
F28DR
10A
KR112
Cargo
Lamp
Relay
F39DR
30A
30
KR76B
Retained
Accessory
Power
Relay 2
87
F35DR
25A
F36DR
30A
F43DR
40A
F46DR
15A
KR8B
Sliding
Rear
Window
Open
Relay
KR8A
Sliding
Rear
Window
Close
Relay
F10DR
15A
F1DR
15A
F2DR
15A

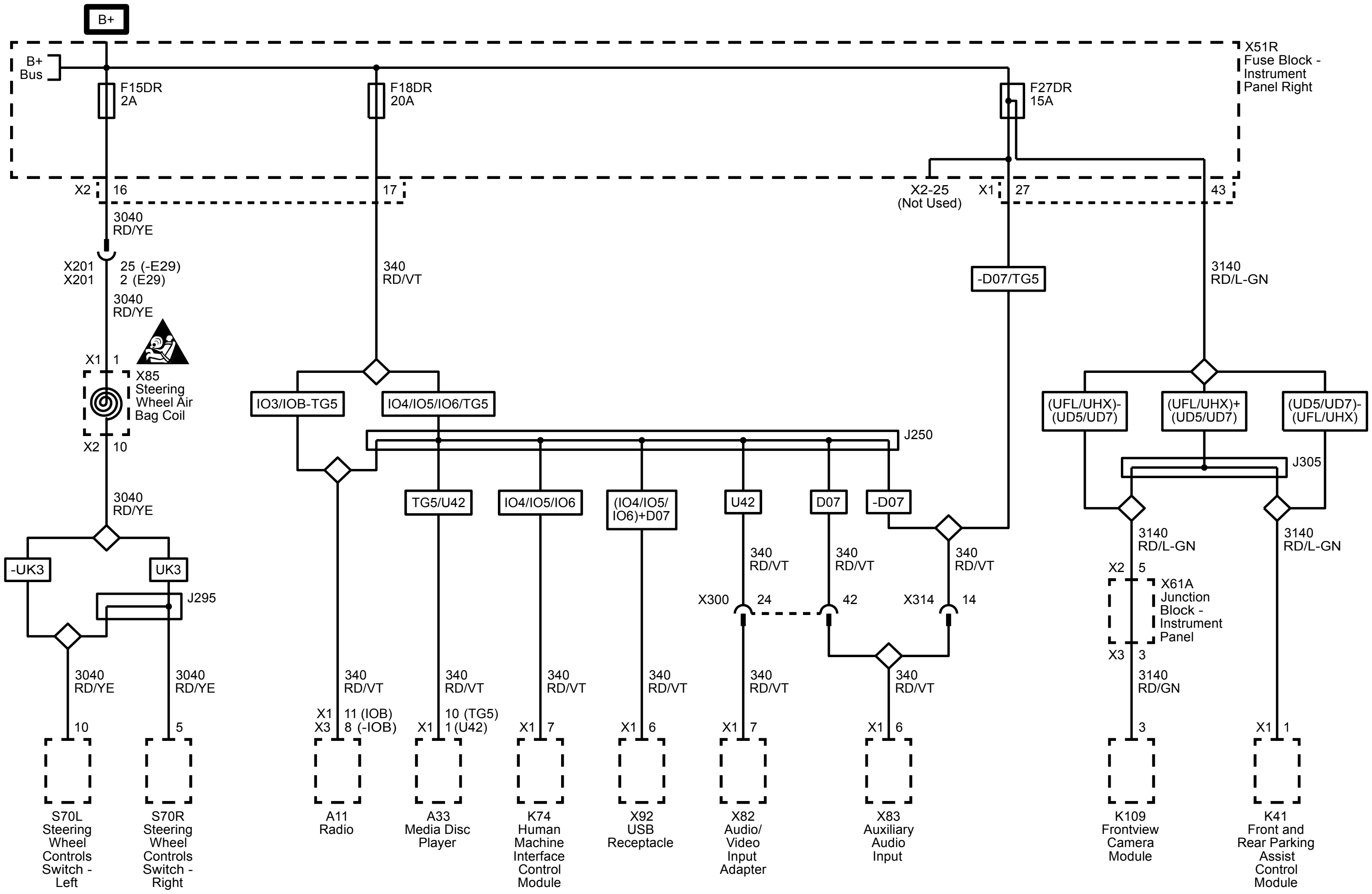
F8DR, F23DR, F26DR, F32DR, F42DR, F45DR and F47DR Fuses (2500/3500)


B+
B+ Bus
X51R Fuse Block - Instrument Panel Right
F32DR 30A
F8DR 20A
F45DR 15A
F42DR 30A
F47DR 30A
F26DR 10A
F23DR 10A
X2 38
7
X1 33
20
19
38
13
12
16
X2 34
-E29
A31
/
A95/AN3/B3F
PTO
PTO
UE1
1340 RD/WH
1340 RD/WH
1440 RD/BN
2640 RD/VT
4540 RD/D-BU
X600 1
X800 1
X320 2
X115 39
37
2340 RD/YE
4040 RD/VT
3440 RD/WH
1340 RD/WH
1340 RD/WH
1440 RD/BN
2640 RD/VT
4540 RD/D-BU
4440 RD/L-GN
3240 RD/D-BU
X605 27
1340 RD/WH
X4 31
X61A Junction Block - Instrument Panel
X7-7 (Not Used)
X7-17 (Not Used)
X2 4
X5 4
X1 4
8
X1 10
X191 K
X1 1
X1 9
X1 15
K9 Body Control Module
S79P Window Switch - Passenger
S79RR Window Switch - Right Rear
S64P Seat Adjuster Switch - Passenger
K44 Power Take-Off Control Module
K36 Inflatable Restraint Sensing and Diagnostic Module
K73 Telematics Communication Interface Control Module

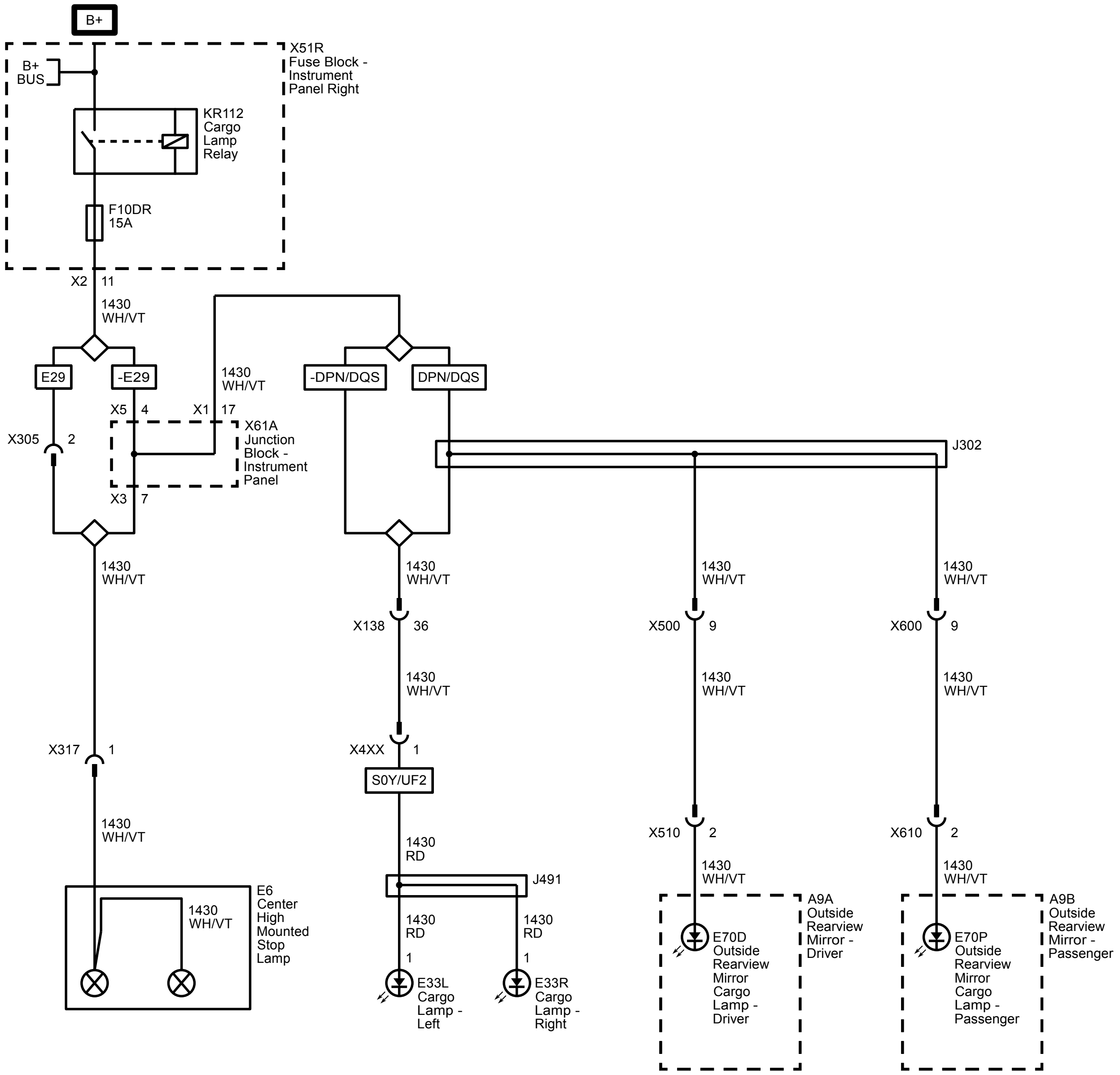
F1DR, F2DR, F7DR, F9DR, F20DR, F28DR, F35DR, F36DR, F43DR and F46DR Fuses (2500/3500)


B+
B+ Bus
30
KR76B Retained Accessory Power Relay 2
87
F2DR 15A
F1DR 15A
F43DR 40A
F36DR 30A
F46DR 15A
F28DR 10A
F7DR 20A
F35DR 25A
F9DR 10A
F20DR 30A
X51R Fuse Block - Instrument Panel Right
X2 10
X1 18
22
37
34
X2 29
8
35
1
X3-3 (Not Used)
X3 1
243 VT/YE
143 VT/YE
UQA
KI4/KI5
U42
CF5/TRW
542 RD/VT
1540 RD/GN
3140 RD/L-GN
AZ3/B3F
AE7/AZ3/B3F
D07
D07
X275 21
X275 2
X217 1
3740 RD/YE
5140 RD/L-GN
2240 RD/BN
2540 RD/D-BU
4140 RD/GY
X305 5
X319 1
243 VT/YE
143 VT/YE
KI4
KI5
X241 6
X314 1
9
X300 1
2
542 RD/VT
4140 RD/GY
1540 RD/GN
3140 RD/L-GN
143 VT/YE
243 VT/YE
243 VT/YE
143 VT/YE
CF5
TRW
A
A
A
A
1
X1 4
X5 3
X1 4
2
6
X2 10
8
C1
X80E Accessory Power Receptacle - Center Seat
X80D Accessory Power Receptacle - Center Console Compartment
X80L Accessory Power Receptacle - Center Console Rear
X80D Accessory Power Receptacle - Center Console Compartment
M8 Blower Motor
T3 Audio Amplifier
K9 Body Control Module
T1 Accessory DC/ AC Power Inverter Module
P22A Video Display - 2nd Row
M69 Sunroof Motor
KR58 Roof Beacon Relay

F15DR, F18DR and F27DR Fuses (2500/3500)

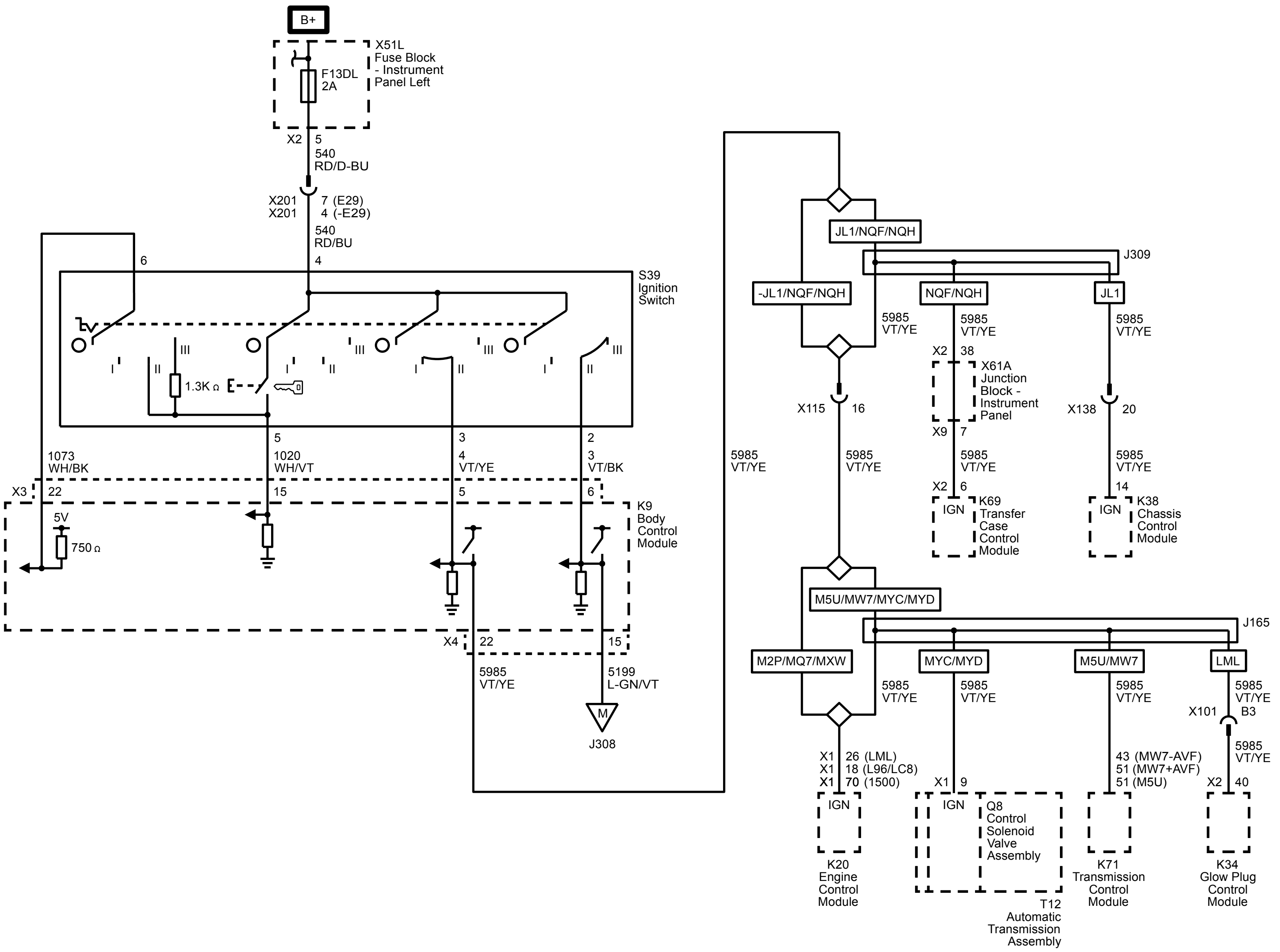

B+
B+ Bus
F15DR 2A
F18DR 20A
F27DR 15A
X51R Fuse Block - Instrument Panel Right
X2 16
17
X2-25 (Not Used)
X1 27
43
3040 RD/YE
X201 25 (-E29)
X201 2 (E29)
3040 RD/YE
X1 1
X85 Steering Wheel Air Bag Coil
X2 10
3040 RD/YE
-UK3
UK3
J295
3040 RD/YE
3040 RD/YE
10
5
S70L Steering Wheel Controls Switch - Left
S70R Steering Wheel Controls Switch - Right
340 RD/VT
IO3/IOB-TG5
IO4/IO5/IO6/TG5
J250
TG5/U42
IO4/IO5/IO6
(IO4/IO5/IO6)+D07
U42
D07
-D07
-D07/TG5
340 RD/VT
340 RD/VT
340 RD/VT
X300 24
42
X314 14
340 RD/VT
340 RD/VT
340 RD/VT
340 RD/VT
340 RD/VT
340 RD/VT
X1 11 (IOB)
X3 8 (-IOB)
X1 10 (TG5)
1 (U42)
X1 7
X1 6
X1 7
X1 6
A11 Radio
A33 Media Disc Player
K74 Human Machine Interface Control Module
X92 USB Receptacle
X82 Audio/Video Input Adapter
X83 Auxiliary Audio Input
3140 RD/L-GN
(UFL/UHX)-(UD5/UD7)
(UFL/UHX)+(UD5/UD7)
(UD5/UD7)-(UFL/UHX)
J305
3140 RD/L-GN
3140 RD/L-GN
X2 5
X61A Junction Block - Instrument Panel
X3 3
3140 RD/GN
3
X1 1
K109 Frontview Camera Module
K41 Front and Rear Parking Assist Control Module

F10DR Fuse (2500/3500)

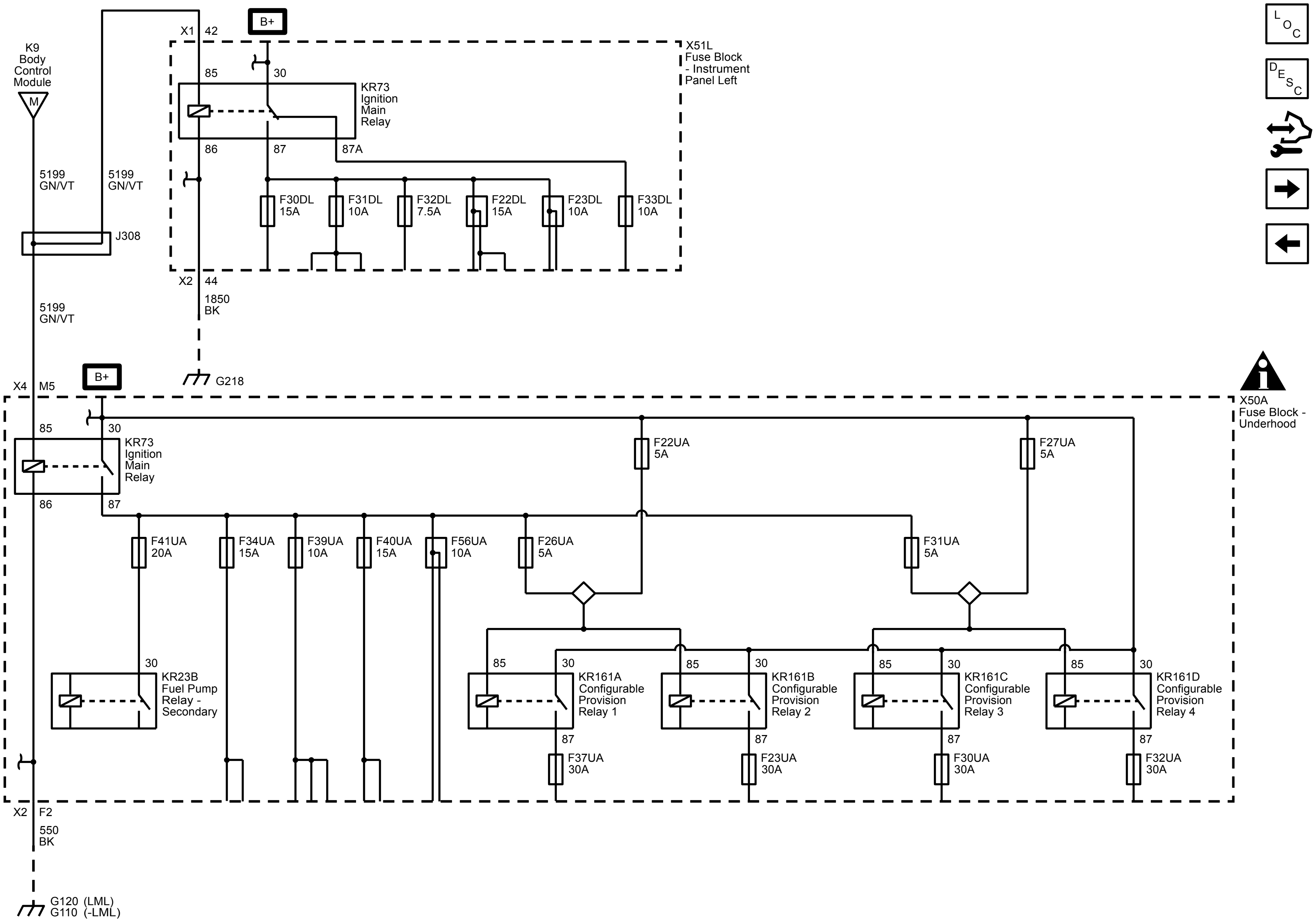

B+
B+ BUS
X51R Fuse Block - Instrument Panel Right
KR112 Cargo Lamp Relay
F10DR 15A
X2 11
1430 WH/VT
E29
-E29
1430 WH/VT
-DPN/DQS
DPN/DQS
X305 2
X5 4
X1 17
X61A Junction Block - Instrument Panel
X3 7
J302
1430 WH/VT
1430 WH/VT
1430 WH/VT
1430 WH/VT
X138 36
X500 9
X600 9
1430 WH/VT
1430 WH/VT
1430 WH/VT
X317 1
X4XX 1
S0Y/UF2
X510 2
X610 2
1430 WH/VT
1430 RD
J491
1430 WH/VT
1430 WH/VT
E6 Center High Mounted Stop Lamp
1430 WH/VT
1430 RD
1430 RD
1
1
E33L Cargo Lamp - Left
E33R Cargo Lamp - Right
A9A Outside Rearview Mirror - Driver
E70D Outside Rearview Mirror Cargo Lamp - Driver
A9B Outside Rearview Mirror - Passenger
E70P Outside Rearview Mirror Cargo Lamp - Passenger

Power Moding Schematics

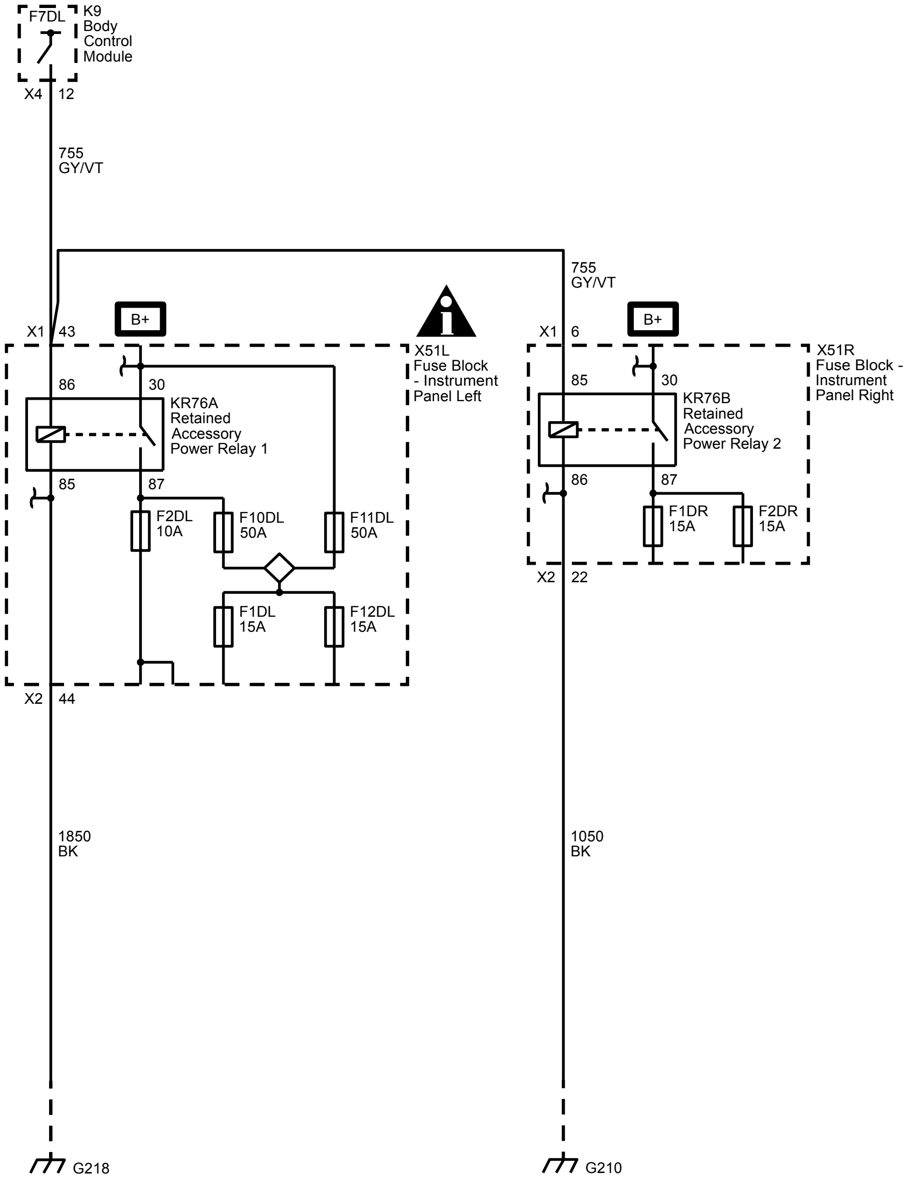
Ignition Switch and Ignition Power



B+
X51L
Fuse Block
- Instrument
Panel Left
F13DL
2A
X2 5
540
RD/D-BU
X201 7 (E29)
X201 4 (-E29)
540
RD/BU
4
6
S39
Ignition
Switch
III
II
I
1.3K Ω
5
3
2
1073
WH/BK
1020
WH/VT
4
VT/YE
3
VT/BK
X3 22
15
5
6
K9
Body
Control
Module
5V
750 Ω
X4 22
15
5985
VT/YE
5199
L-GN/VT
M
J308
5985
VT/YE
JL1/NQF/NQH
J309
-JL1/NQF/NQH
NQF/NQH
JL1
5985
VT/YE
X2 38
X61A
Junction
Block -
Instrument
Panel
X9 7
X115 16
X138 20
X2 6
IGN
K69
Transfer
Case
Control
Module
14
IGN
K38
Chassis
Control
Module
M5U/MW7/MYC/MYD
J165
M2P/MQ7/MXW
MYC/MYD
M5U/MW7
LML
X101 B3
X1 26 (LML)
X1 18 (L96/LC8)
X1 70 (1500)
X1 9
43 (MW7-AVF)
51 (MW7+AVF)
51 (M5U)
X2 40
IGN
K20
Engine
Control
Module
IGN
Q8
Control
Solenoid
Valve
Assembly
T12
Automatic
Transmission
Assembly
K71
Transmission
Control
Module
K34
Glow Plug
Control
Module

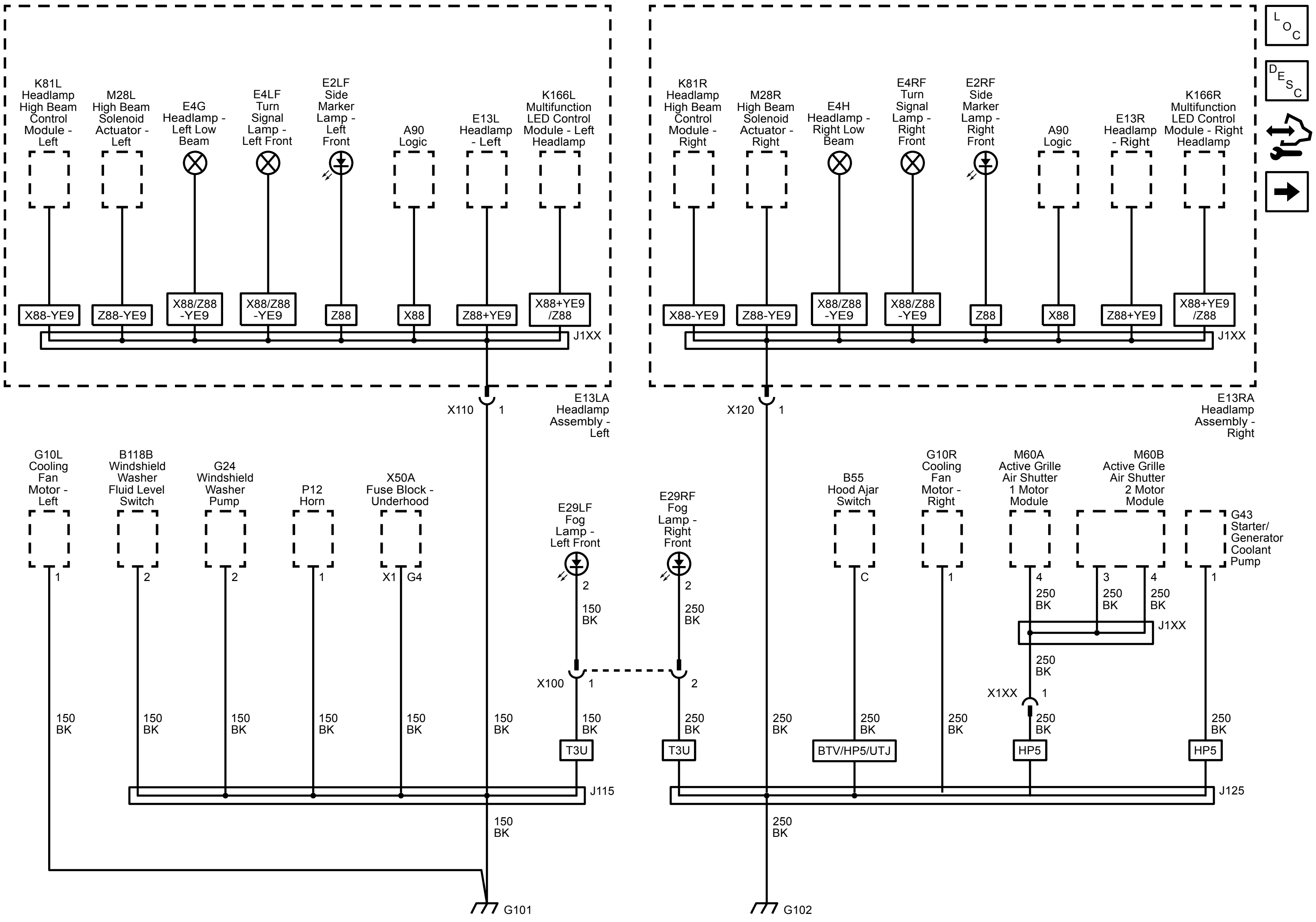

K9 Body Control Module
M
5199 GN/VT
5199 GN/VT
J308
5199 GN/VT
X1 42
B+
X51L Fuse Block - Instrument Panel Left
85
30
KR73 Ignition Main Relay
86
87
87A
F30DL 15A
F31DL 10A
F32DL 7.5A
F22DL 15A
F23DL 10A
F33DL 10A
X2 44
1850 BK
G218
X4 M5
B+
X50A Fuse Block - Underhood
85
30
KR73 Ignition Main Relay
86
87
F22UA 5A
F27UA 5A
F41UA 20A
F34UA 15A
F39UA 10A
F40UA 15A
F56UA 10A
F26UA 5A
F31UA 5A
30
KR23B Fuel Pump Relay - Secondary
85
30
KR161A Configurable Provision Relay 1
85
30
KR161B Configurable Provision Relay 2
85
30
KR161C Configurable Provision Relay 3
85
30
KR161D Configurable Provision Relay 4
87
F37UA 30A
87
F23UA 30A
87
F30UA 30A
87
F32UA 30A
X2 F2
550 BK
G120 (LML)
G110 (-LML)
L O C
D E S C

Retained Accessory Power Relays

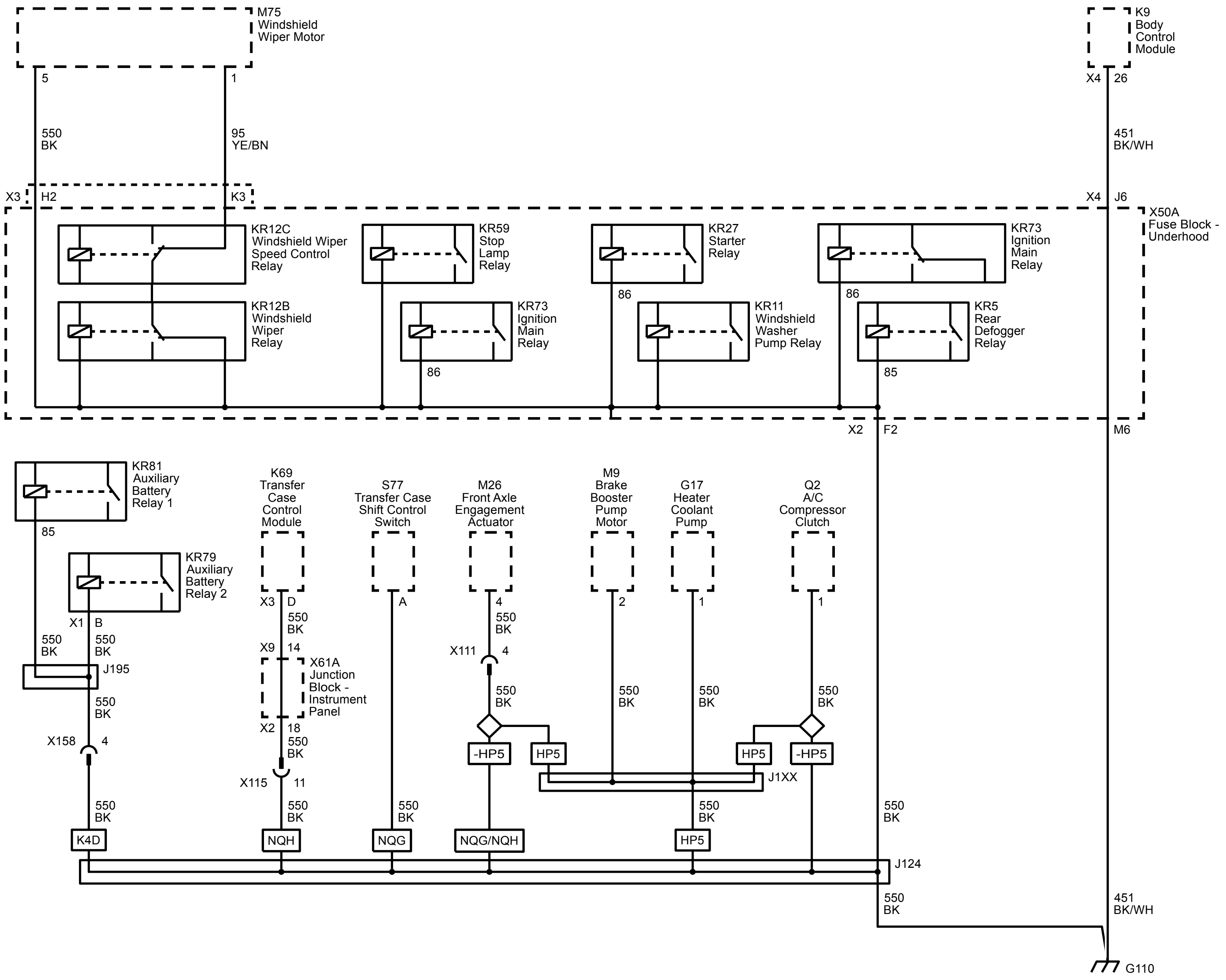

F7DL
K9
Body
Control
Module
X4
12
755
GY/VT
755
GY/VT
X1
43
B+
X51L
Fuse Block
- Instrument
Panel Left
86
30
KR76A
Retained
Accessory
Power Relay 1
85
87
F2DL
10A
F10DL
50A
F11DL
50A
F1DL
15A
F12DL
15A
X2
44
1850
BK
G218
X1
6
B+
X51R
Fuse Block -
Instrument
Panel Right
85
30
KR76B
Retained
Accessory
Power Relay 2
86
87
F1DR
15A
F2DR
15A
X2
22
1050
BK
G210

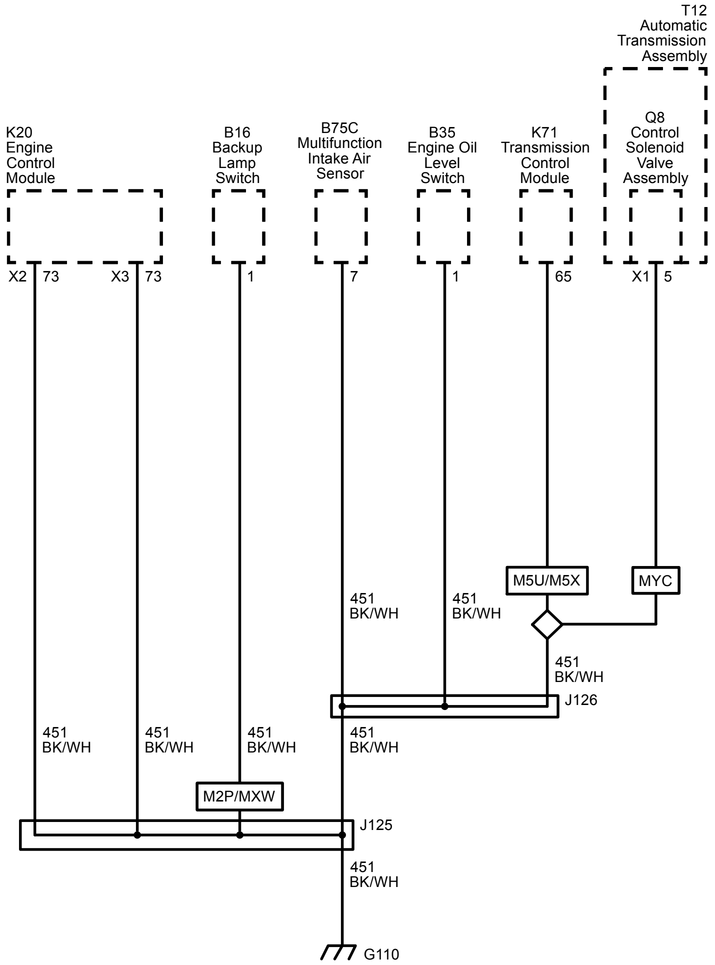
Ground Distribution Schematics ((1500))

G101 and G102 (1500)

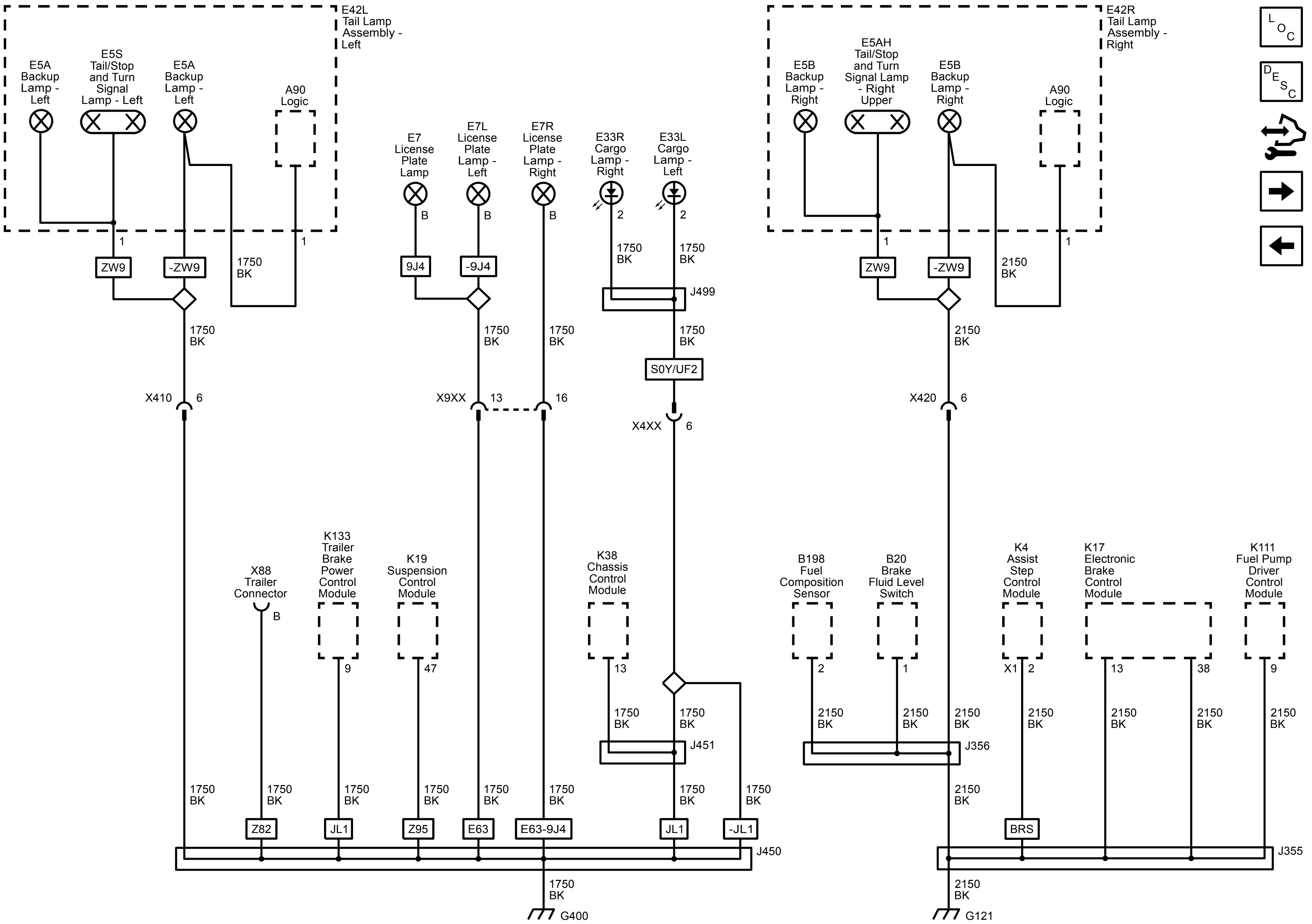

K81L Headlamp High Beam Control Module - Left
M28L High Beam Solenoid Actuator - Left
E4G Headlamp - Left Low Beam
E4LF Turn Signal Lamp - Left Front
E2LF Side Marker Lamp - Left Front
A90 Logic
E13L Headlamp - Left
K166L Multifunction LED Control Module - Left Headlamp
X88-YE9
Z88-YE9
X88/Z88 -YE9
X88/Z88 -YE9
Z88
X88
Z88+YE9
X88+YE9 /Z88
J1XX
E13LA Headlamp Assembly - Left
X110
1
K81R Headlamp High Beam Control Module - Right
M28R High Beam Solenoid Actuator - Right
E4H Headlamp - Right Low Beam
E4RF Turn Signal Lamp - Right Front
E2RF Side Marker Lamp - Right Front
A90 Logic
E13R Headlamp - Right
K166R Multifunction LED Control Module - Right Headlamp
X88-YE9
Z88-YE9
X88/Z88 -YE9
X88/Z88 -YE9
Z88
X88
Z88+YE9
X88+YE9 /Z88
J1XX
E13RA Headlamp Assembly - Right
X120
1
LOC
DESC
G10L Cooling Fan Motor - Left
1
150 BK
B118B Windshield Washer Fluid Level Switch
2
150 BK
G24 Windshield Washer Pump
2
150 BK
P12 Horn
1
150 BK
X50A Fuse Block - Underhood
X1
G4
150 BK
150 BK
E29LF Fog Lamp - Left Front
2
150 BK
X100
1
150 BK
T3U
E29RF Fog Lamp - Right Front
2
250 BK
2
250 BK
T3U
J115
150 BK
G101
250 BK
250 BK
B55 Hood Ajar Switch
C
250 BK
BTV/HP5/UTJ
G10R Cooling Fan Motor - Right
1
250 BK
M60A Active Grille Air Shutter 1 Motor Module
4
250 BK
M60B Active Grille Air Shutter 2 Motor Module
3
250 BK
4
250 BK
J1XX
250 BK
X1XX
1
250 BK
HP5
G43 Starter/ Generator Coolant Pump
1
250 BK
HP5
J125
G102

G110 1 of 2 (1500)


M75 Windshield Wiper Motor
5
1
550 BK
95 YE/BN
K9 Body Control Module
X4
26
451 BK/WH
X3
H2
K3
X4
J6
X50A Fuse Block - Underhood
KR12C Windshield Wiper Speed Control Relay
KR12B Windshield Wiper Relay
KR59 Stop Lamp Relay
KR73 Ignition Main Relay
86
KR27 Starter Relay
86
KR11 Windshield Washer Pump Relay
KR73 Ignition Main Relay
86
KR5 Rear Defogger Relay
85
X2
F2
M6
KR81 Auxiliary Battery Relay 1
85
KR79 Auxiliary Battery Relay 2
X1
B
550 BK
550 BK
J195
550 BK
X158
4
550 BK
K4D
K69 Transfer Case Control Module
X3
D
550 BK
X9
14
X61A Junction Block - Instrument Panel
X2
18
550 BK
X115
11
550 BK
NQH
S77 Transfer Case Shift Control Switch
A
550 BK
NQG
M26 Front Axle Engagement Actuator
4
550 BK
X111
4
550 BK
-HP5
HP5
NQG/NQH
M9 Brake Booster Pump Motor
2
550 BK
G17 Heater Coolant Pump
1
550 BK
550 BK
HP5
Q2 A/C Compressor Clutch
1
550 BK
HP5
-HP5
J1XX
550 BK
J124
550 BK
451 BK/WH
G110

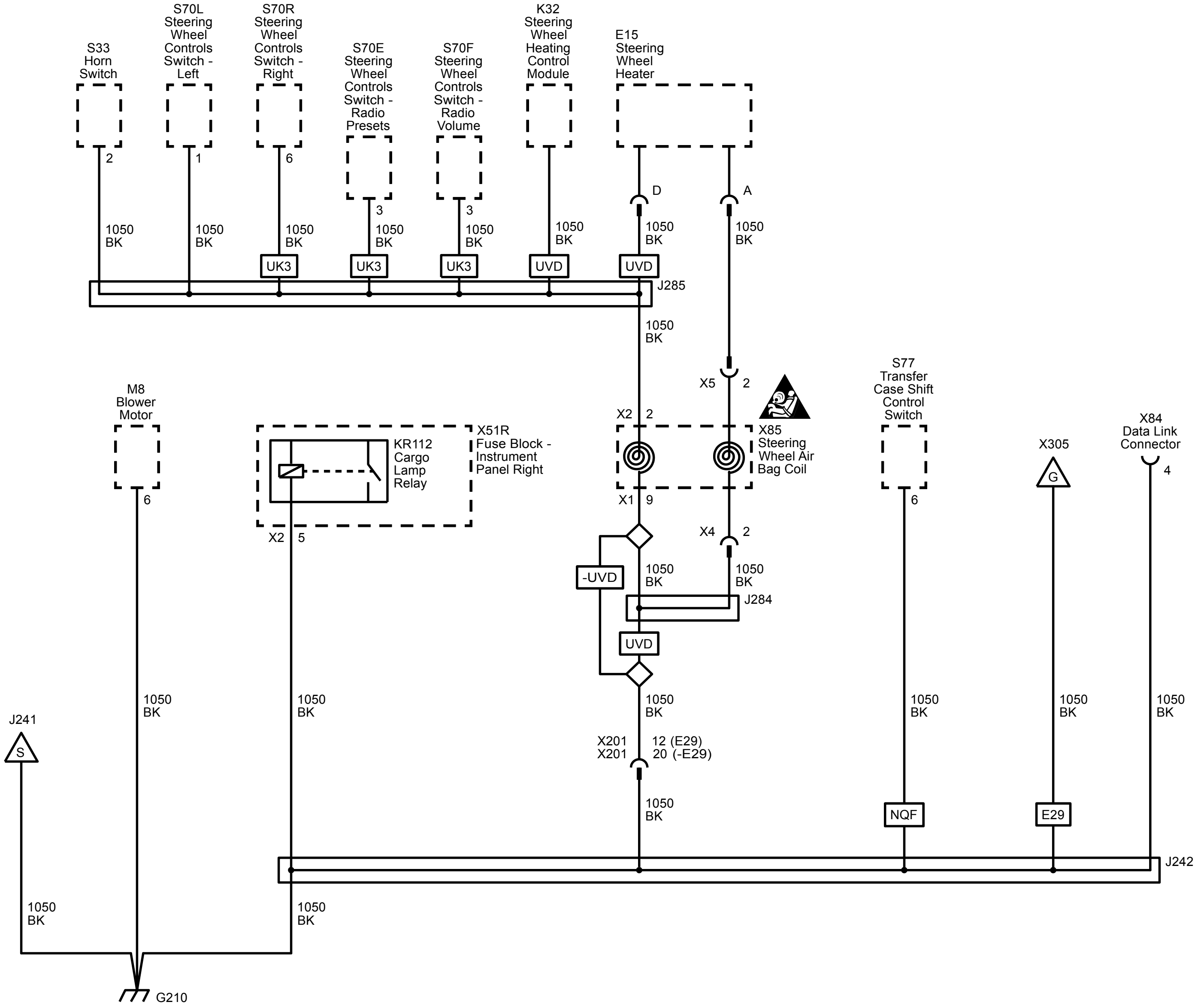

T12
Automatic
Transmission
Assembly
K20
Engine
Control
Module
B16
Backup
Lamp
Switch
B75C
Multifunction
Intake Air
Sensor
B35
Engine Oil
Level
Switch
K71
Transmission
Control
Module
Q8
Control
Solenoid
Valve
Assembly
X2 73
X3 73
1
7
1
65
X1 5
M5U/M5X
MYC
451
BK/WH
451
BK/WH
451
BK/WH
J126
451
BK/WH
451
BK/WH
451
BK/WH
451
BK/WH
M2P/MXW
J125
451
BK/WH
G110

G121 and G400 (1500)

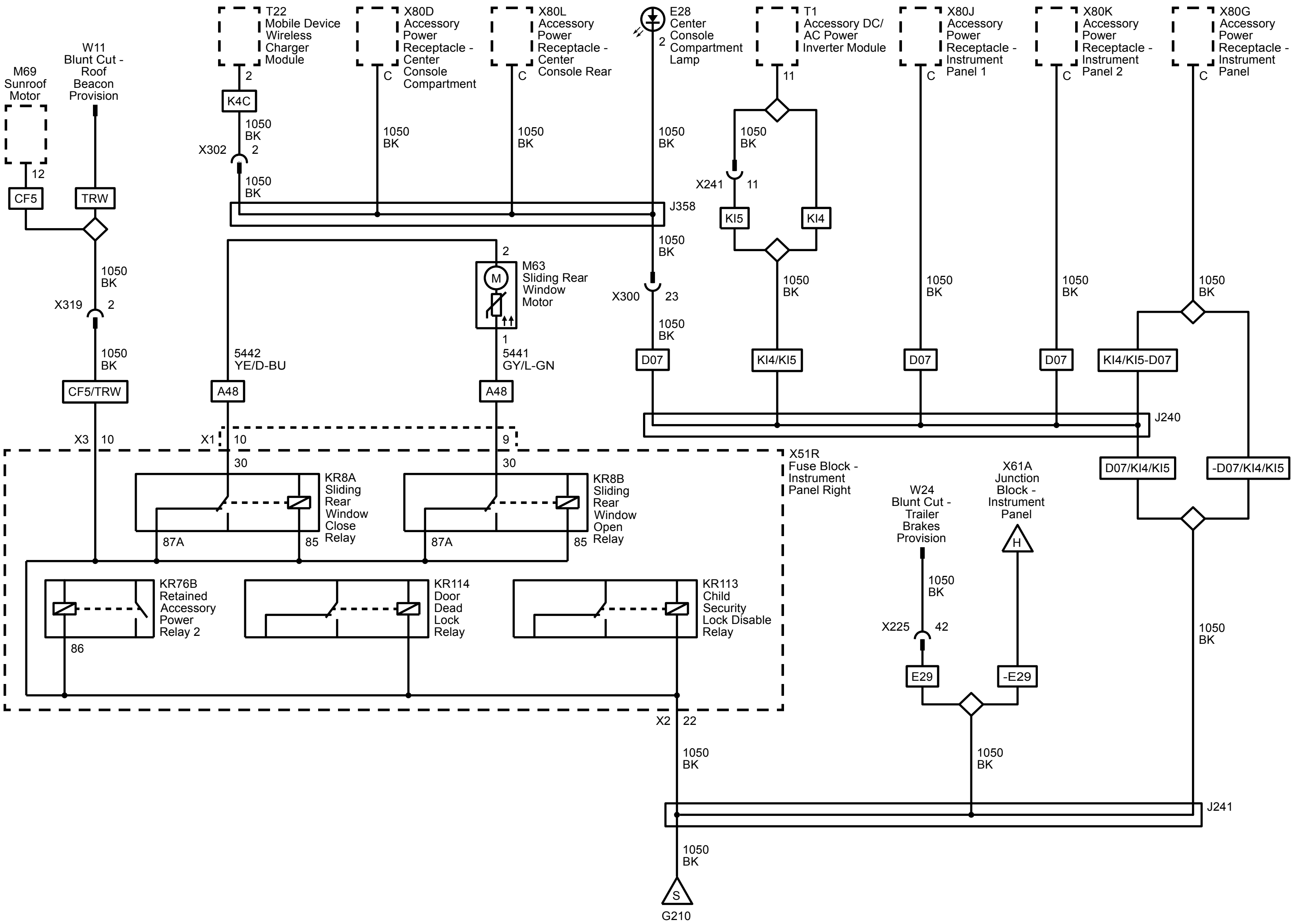

E42L Tail Lamp Assembly - Left
E5A Backup Lamp - Left
E5S Tail/Stop and Turn Signal Lamp - Left
E5A Backup Lamp - Left
A90 Logic
1
1
ZW9
-ZW9
1750 BK
1750 BK
X410
6
E7 License Plate Lamp
E7L License Plate Lamp - Left
E7R License Plate Lamp - Right
E33R Cargo Lamp - Right
E33L Cargo Lamp - Left
B
B
B
2
2
9J4
-9J4
1750 BK
1750 BK
J499
1750 BK
1750 BK
1750 BK
S0Y/UF2
X9XX
13
16
X4XX
6
E42R Tail Lamp Assembly - Right
E5B Backup Lamp - Right
E5AH Tail/Stop and Turn Signal Lamp - Right Upper
E5B Backup Lamp - Right
A90 Logic
1
1
ZW9
-ZW9
2150 BK
2150 BK
X420
6
X88 Trailer Connector
B
K133 Trailer Brake Power Control Module
9
K19 Suspension Control Module
47
K38 Chassis Control Module
13
1750 BK
1750 BK
J451
B198 Fuel Composition Sensor
2
B20 Brake Fluid Level Switch
1
K4 Assist Step Control Module
X1
2
K17 Electronic Brake Control Module
13
38
K111 Fuel Pump Driver Control Module
9
2150 BK
2150 BK
2150 BK
2150 BK
2150 BK
2150 BK
2150 BK
J356
2150 BK
1750 BK
1750 BK
1750 BK
1750 BK
1750 BK
1750 BK
1750 BK
1750 BK
Z82
JL1
Z95
E63
E63-9J4
JL1
-JL1
J450
1750 BK
G400
BRS
J355
2150 BK
G121

G210 1 of 3 (1500)

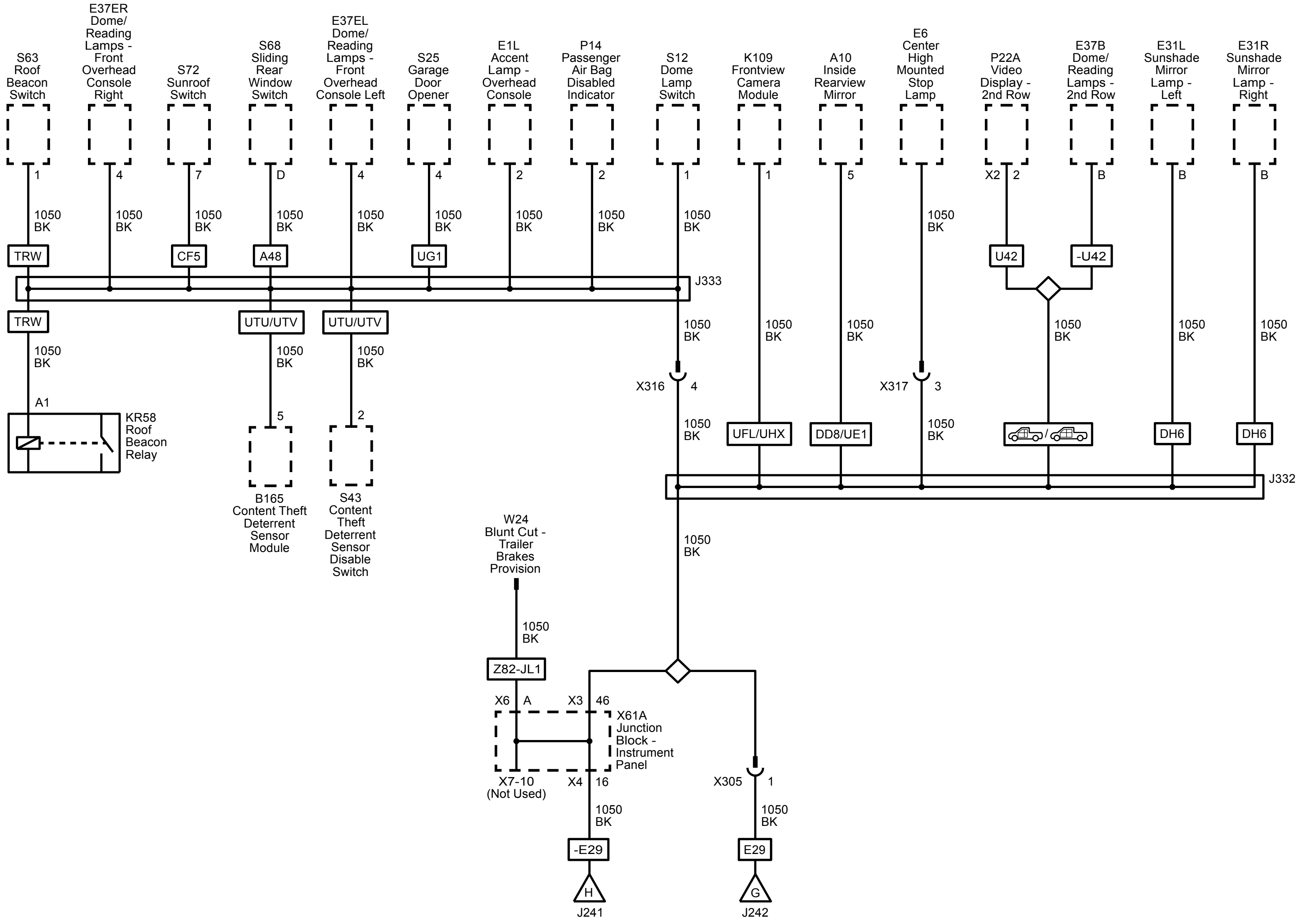
LOC
DESC


S33 Horn Switch
S70L Steering Wheel Controls Switch - Left
S70R Steering Wheel Controls Switch - Right
S70E Steering Wheel Controls Switch - Radio Presets
S70F Steering Wheel Controls Switch - Radio Volume
K32 Steering Wheel Heating Control Module
E15 Steering Wheel Heater
2
1
6
3
3
D
A
1050 BK
UK3
UK3
UK3
UVD
UVD
J285
X5
2
X2
2
X85 Steering Wheel Air Bag Coil
X1
9
X4
2
-UVD
J284
UVD
M8 Blower Motor
6
X51R Fuse Block - Instrument Panel Right
KR112 Cargo Lamp Relay
X2
5
S77 Transfer Case Shift Control Switch
6
X305
G
X84 Data Link Connector
4
J241
S
X201
X201
12 (E29)
20 (-E29)
NQF
E29
J242
G210

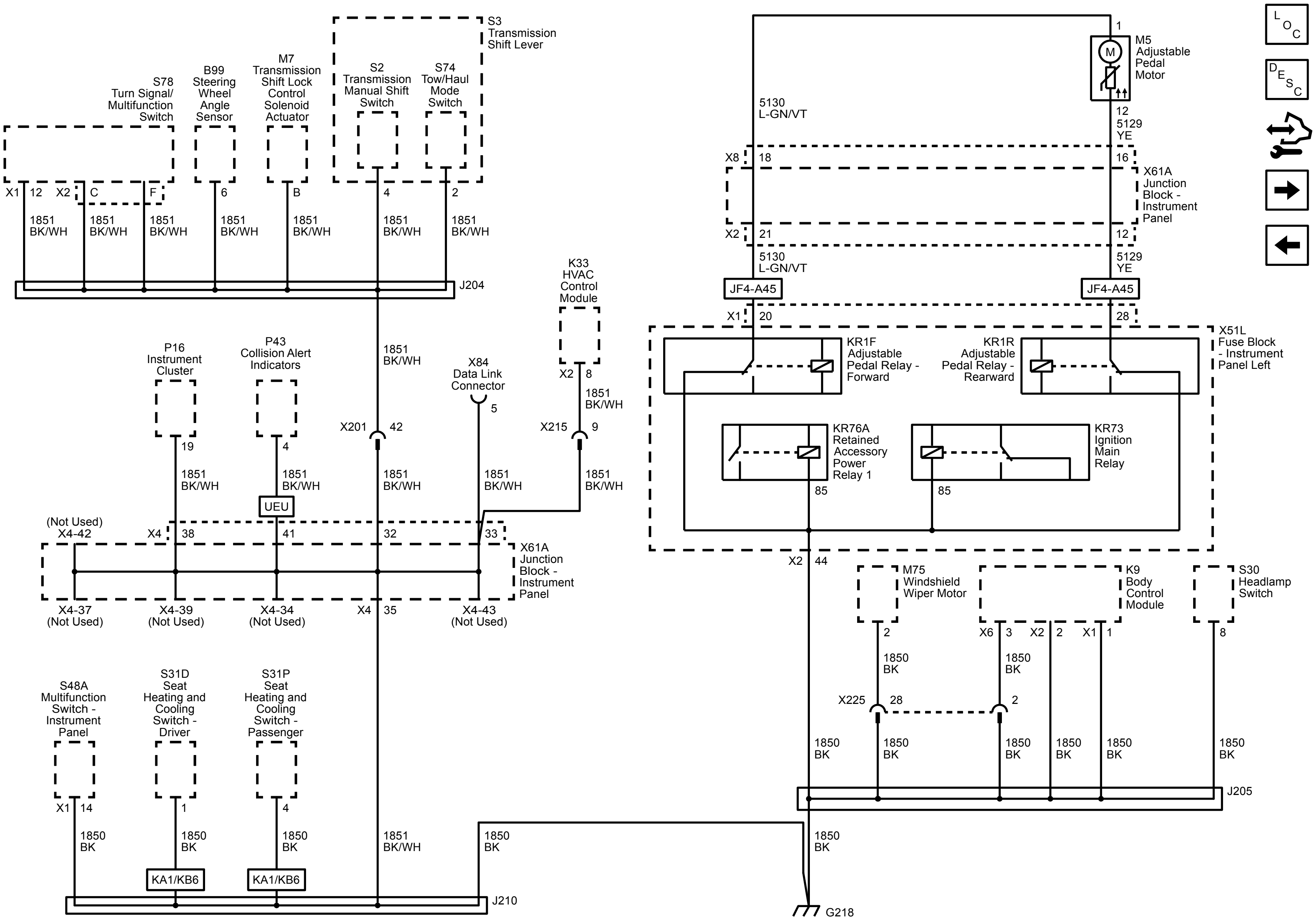
G210 2 of 3 (1500)


T22 Mobile Device Wireless Charger Module
X80D Accessory Power Receptacle - Center Console Compartment
X80L Accessory Power Receptacle - Center Console Rear
E28 Center Console Compartment Lamp
T1 Accessory DC/AC Power Inverter Module
X80J Accessory Power Receptacle - Instrument Panel 1
X80K Accessory Power Receptacle - Instrument Panel 2
X80G Accessory Power Receptacle - Instrument Panel
W11 Blunt Cut - Roof Beacon Provision
M69 Sunroof Motor
12
2
C
11
K4C
1050 BK
X302
2
X241
11
KI5
KI4
CF5
TRW
J358
M63 Sliding Rear Window Motor
M
1
5442 YE/D-BU
5441 GY/L-GN
X319
X300
23
A48
D07
KI4/KI5
KI4/KI5-D07
CF5/TRW
J240
X3
10
X1
9
30
X51R Fuse Block - Instrument Panel Right
KR8A Sliding Rear Window Close Relay
KR8B Sliding Rear Window Open Relay
87A
85
86
D07/KI4/KI5
-D07/KI4/KI5
W24 Blunt Cut - Trailer Brakes Provision
X61A Junction Block - Instrument Panel
H
KR76B Retained Accessory Power Relay 2
KR114 Door Dead Lock Relay
KR113 Child Security Lock Disable Relay
X225
42
E29
-E29
X2
22
J241
S
G210

G210 3 of 3 (1500)

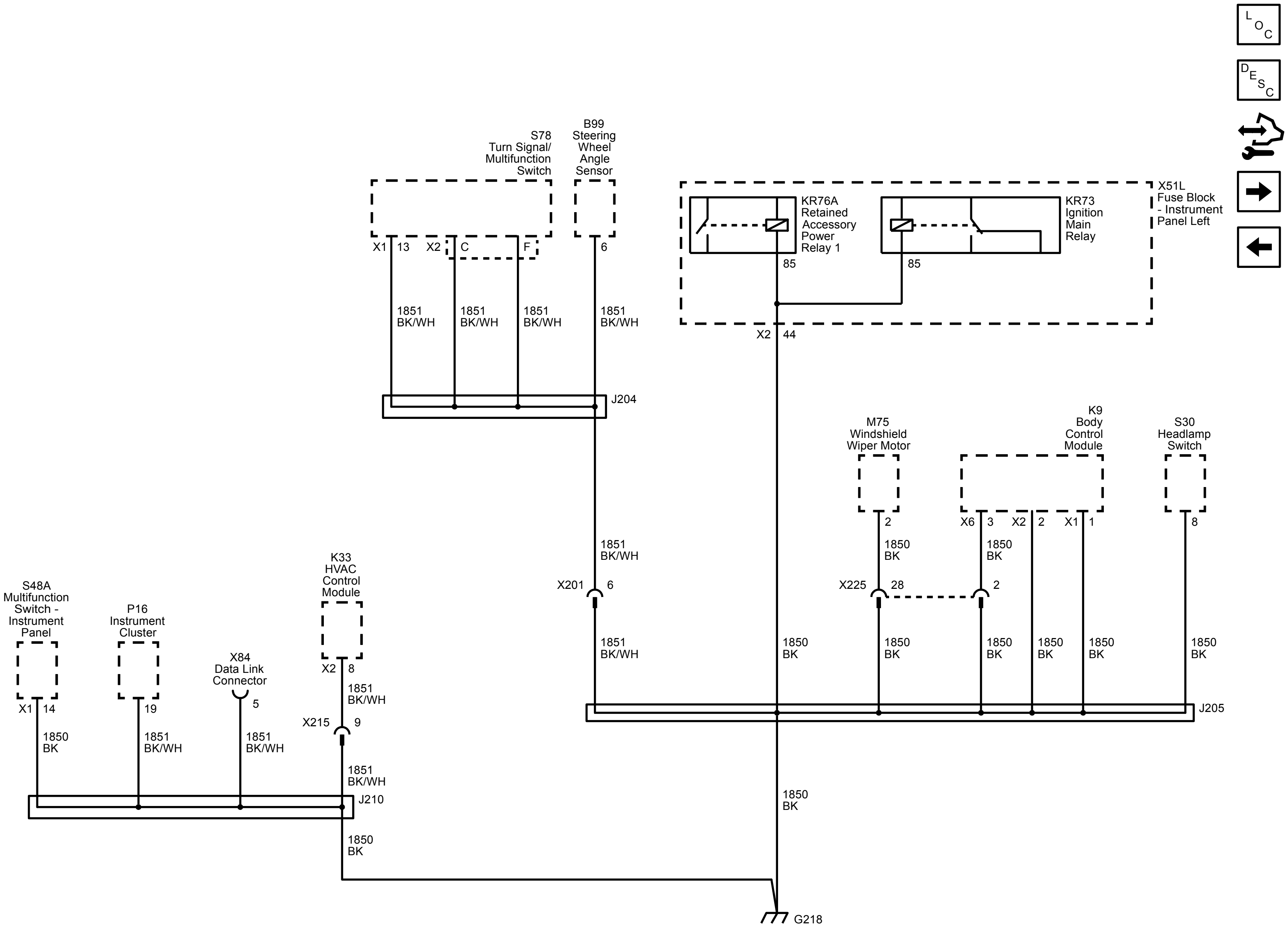

S63 Roof Beacon Switch
E37ER Dome/ Reading Lamps - Front Overhead Console Right
S72 Sunroof Switch
S68 Sliding Rear Window Switch
E37EL Dome/ Reading Lamps - Front Overhead Console Left
S25 Garage Door Opener
E1L Accent Lamp - Overhead Console
P14 Passenger Air Bag Disabled Indicator
S12 Dome Lamp Switch
K109 Frontview Camera Module
A10 Inside Rearview Mirror
E6 Center High Mounted Stop Lamp
P22A Video Display - 2nd Row
E37B Dome/ Reading Lamps - 2nd Row
E31L Sunshade Mirror Lamp - Left
E31R Sunshade Mirror Lamp - Right
1
4
7
D
4
4
2
2
1
1
5
X2 2
B
B
B
1050 BK
TRW
CF5
A48
UG1
U42
-U42
J333
TRW
UTU/UTV
UTU/UTV
1050 BK
X316 4
X317 3
A1
KR58 Roof Beacon Relay
5
2
B165 Content Theft Deterrent Sensor Module
S43 Content Theft Deterrent Sensor Disable Switch
UFL/UHX
DD8/UE1
DH6
DH6
J332
W24 Blunt Cut - Trailer Brakes Provision
Z82-JL1
X6 A
X3 46
X61A Junction Block - Instrument Panel
X7-10 (Not Used)
X4 16
X305 1
-E29
E29
H
G
J241
J242

G218 (1500 except E29)



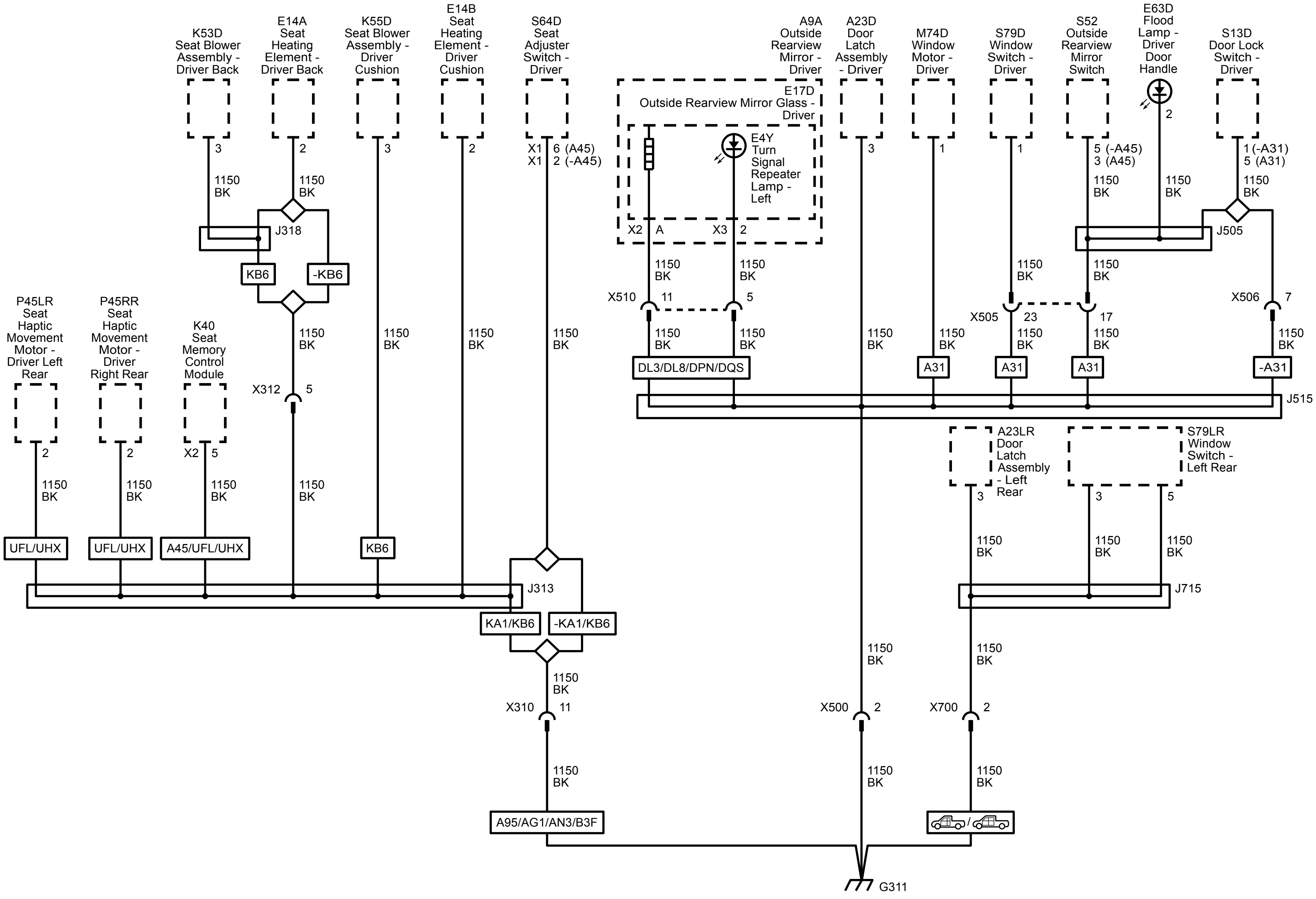
S78 Turn Signal/ Multifunction Switch
B99 Steering Wheel Angle Sensor
M7 Transmission Shift Lock Control Solenoid Actuator
S3 Transmission Shift Lever
S2 Transmission Manual Shift Switch
S74 Tow/Haul Mode Switch
X1 12
X2 C
F
6
B
4
2
1851 BK/WH
J204
K33 HVAC Control Module
X2 8
1851 BK/WH
P16 Instrument Cluster
P43 Collision Alert Indicators
X84 Data Link Connector
5
19
4
X201 42
X215 9
UEU
(Not Used) X4-42
X4 38
41
32
33
X61A Junction Block - Instrument Panel
X4-37 (Not Used)
X4-39 (Not Used)
X4-34 (Not Used)
X4 35
X4-43 (Not Used)
S48A Multifunction Switch - Instrument Panel
S31D Seat Heating and Cooling Switch - Driver
S31P Seat Heating and Cooling Switch - Passenger
X1 14
1
4
1850 BK
KA1/KB6
KA1/KB6
J210
1
M5 Adjustable Pedal Motor
M
5130 L-GN/VT
12
5129 YE
X8 18
16
X61A Junction Block - Instrument Panel
X2 21
12
JF4-A45
JF4-A45
X1 20
28
X51L Fuse Block - Instrument Panel Left
KR1F Adjustable Pedal Relay - Forward
KR1R Adjustable Pedal Relay - Rearward
KR76A Retained Accessory Power Relay 1
KR73 Ignition Main Relay
85
85
X2 44
M75 Windshield Wiper Motor
K9 Body Control Module
S30 Headlamp Switch
2
X6 3
X2 2
X1 1
8
1850 BK
X225 28
2
J205
G218

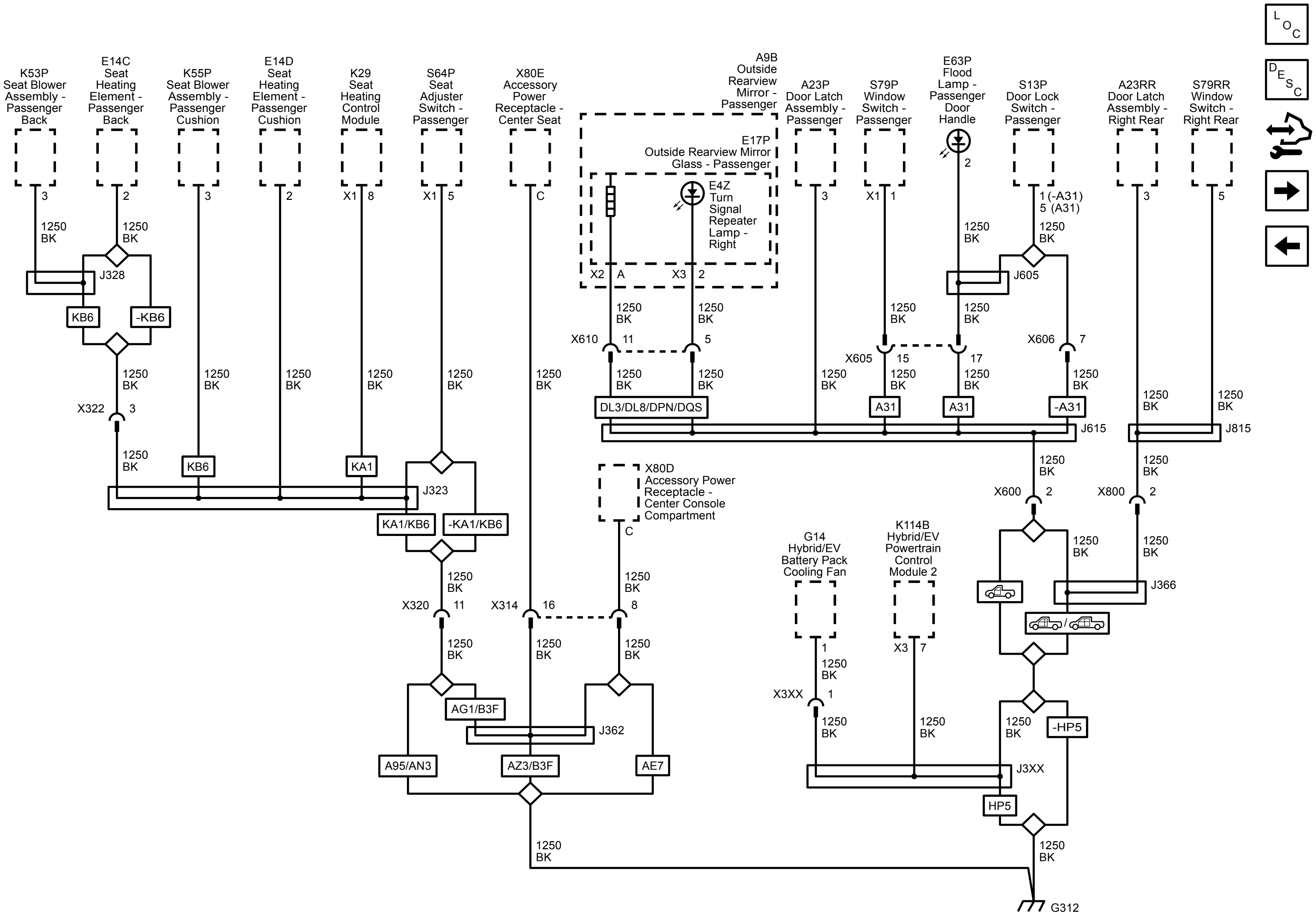
G218 (1500 with E29)



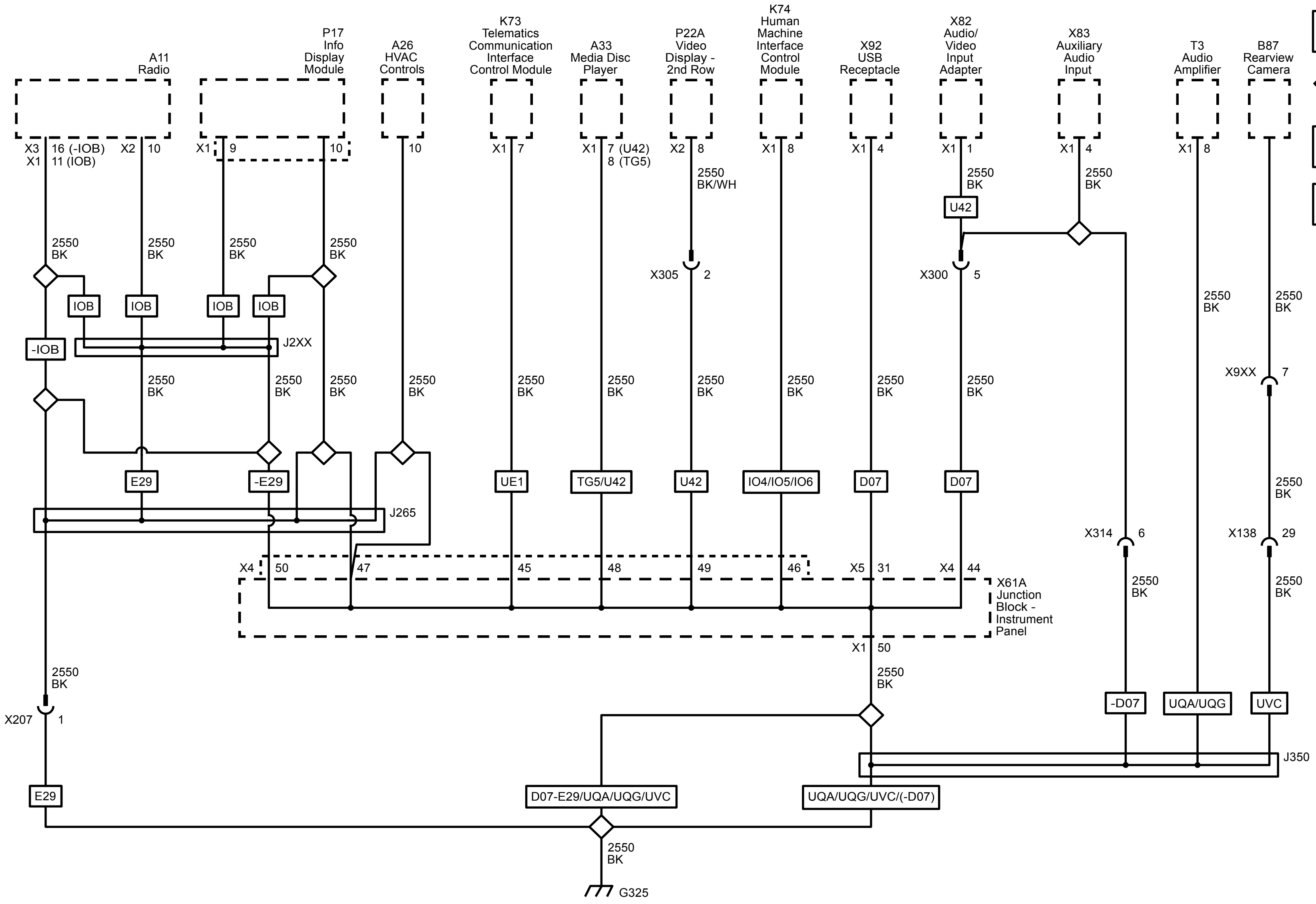
LOC
DESC
S78 Turn Signal/ Multifunction Switch
B99 Steering Wheel Angle Sensor
X1 13
X2 C F
6
1851 BK/WH
1851 BK/WH
1851 BK/WH
1851 BK/WH
J204
KR76A Retained Accessory Power Relay 1
85
KR73 Ignition Main Relay
85
X51L Fuse Block - Instrument Panel Left
X2 44
M75 Windshield Wiper Motor
2
K9 Body Control Module
X6 3 X2 2 X1 1
S30 Headlamp Switch
8
1850 BK
1850 BK
X225 28
2
1851 BK/WH
X201 6
1851 BK/WH
1850 BK
1850 BK
1850 BK
1850 BK
1850 BK
1850 BK
J205
S48A Multifunction Switch - Instrument Panel
X1 14
P16 Instrument Cluster
19
X84 Data Link Connector
5
K33 HVAC Control Module
X2 8
1851 BK/WH
X215 9
1850 BK
1851 BK/WH
1851 BK/WH
1851 BK/WH
J210
1850 BK
1850 BK
G218

G311 (1500)

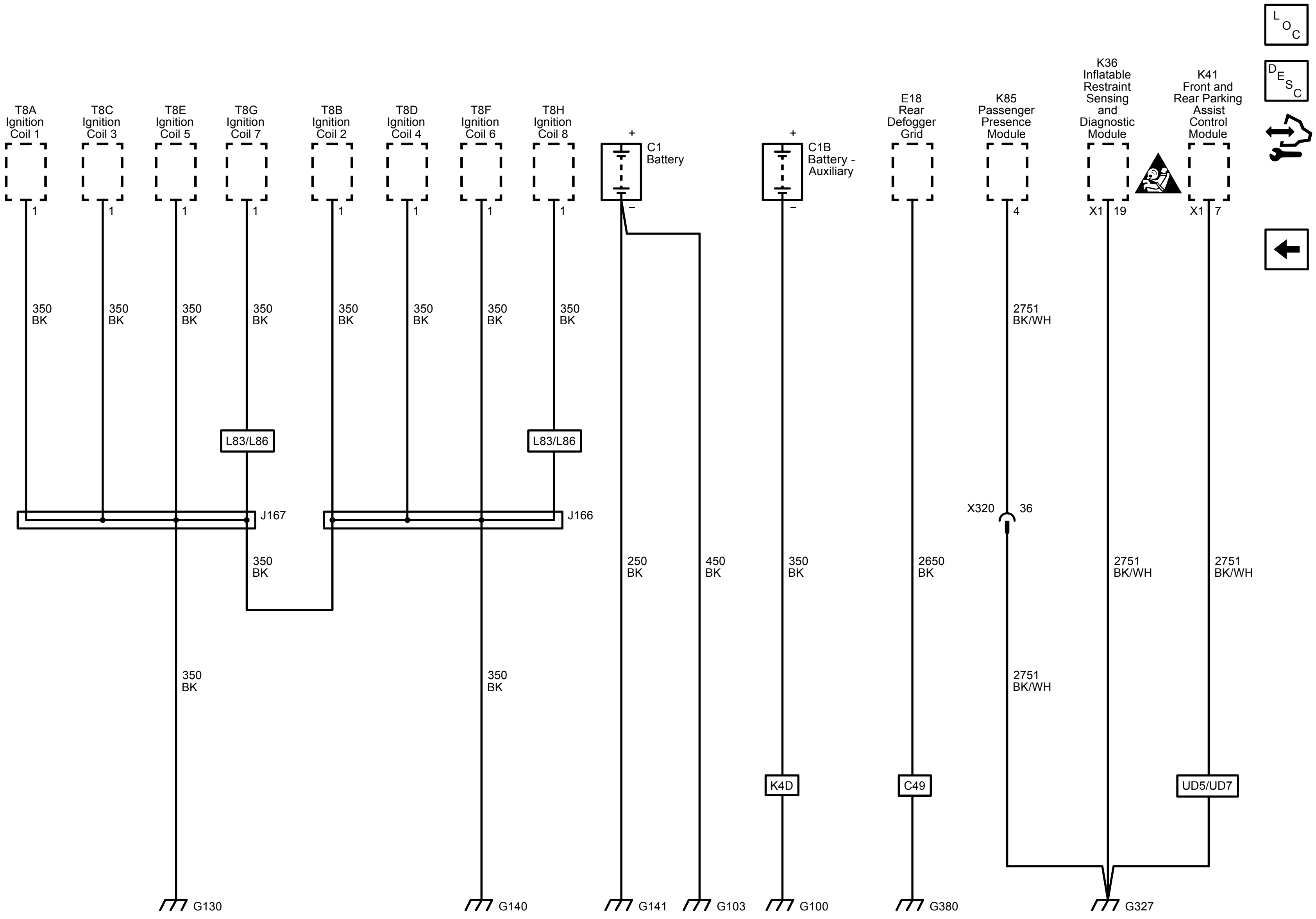

K53D Seat Blower Assembly - Driver Back
E14A Seat Heating Element - Driver Back
K55D Seat Blower Assembly - Driver Cushion
E14B Seat Heating Element - Driver Cushion
S64D Seat Adjuster Switch - Driver
A9A Outside Rearview Mirror - Driver
E17D Outside Rearview Mirror Glass - Driver
E4Y Turn Signal Repeater Lamp - Left
A23D Door Latch Assembly - Driver
M74D Window Motor - Driver
S79D Window Switch - Driver
S52 Outside Rearview Mirror Switch
E63D Flood Lamp - Driver Door Handle
S13D Door Lock Switch - Driver
3
2
3
2
X1 6 (A45)
X1 2 (-A45)
3
1
1
5 (-A45)
3 (A45)
2
1 (-A31)
5 (A31)
1150 BK
J318
KB6
-KB6
X2 A
X3 2
J505
X510 11
5
X505 23
17
X506 7
DL3/DL8/DPN/DQS
A31
A31
A31
-A31
J515
P45LR Seat Haptic Movement Motor - Driver Left Rear
P45RR Seat Haptic Movement Motor - Driver Right Rear
K40 Seat Memory Control Module
X312 5
2
2
X2 5
A23LR Door Latch Assembly - Left Rear
S79LR Window Switch - Left Rear
3
3
5
UFL/UHX
UFL/UHX
A45/UFL/UHX
KB6
J313
KA1/KB6
-KA1/KB6
J715
X310 11
X500 2
X700 2
A95/AG1/AN3/B3F
G311


K53P Seat Blower Assembly - Passenger Back
E14C Seat Heating Element - Passenger Back
K55P Seat Blower Assembly - Passenger Cushion
E14D Seat Heating Element - Passenger Cushion
K29 Seat Heating Control Module
S64P Seat Adjuster Switch - Passenger
X80E Accessory Power Receptacle - Center Seat
A9B Outside Rearview Mirror - Passenger
E17P Outside Rearview Mirror Glass - Passenger
E4Z Turn Signal Repeater Lamp - Right
A23P Door Latch Assembly - Passenger
S79P Window Switch - Passenger
E63P Flood Lamp - Passenger Door Handle
S13P Door Lock Switch - Passenger
A23RR Door Latch Assembly - Right Rear
S79RR Window Switch - Right Rear
X80D Accessory Power Receptacle - Center Console Compartment
G14 Hybrid/EV Battery Pack Cooling Fan
K114B Hybrid/EV Powertrain Control Module 2
1250 BK
J328
KB6
-KB6
X322
J323
KA1
KA1/KB6
-KA1/KB6
X320
X314
J362
AG1/B3F
A95/AN3
AZ3/B3F
AE7
X610
DL3/DL8/DPN/DQS
X605
A31
X606
-A31
J615
J605
J815
X600
X800
J366
-HP5
HP5
J3XX
X3XX
G312
1 (-A31)
5 (A31)

G325 (1500)


A11
Radio
P17
Info
Display
Module
A26
HVAC
Controls
K73
Telematics
Communication
Interface
Control Module
A33
Media Disc
Player
P22A
Video
Display -
2nd Row
K74
Human
Machine
Interface
Control
Module
X92
USB
Receptacle
X82
Audio/
Video
Input
Adapter
X83
Auxiliary
Audio
Input
T3
Audio
Amplifier
B87
Rearview
Camera
X3 16 (-IOB)
X1 11 (IOB)
X2 10
X1 9
10
10
X1 7
X1 7 (U42)
8 (TG5)
X2 8
X1 8
X1 4
X1 1
X1 4
X1 8
2550
BK
2550
BK/WH
U42
X305 2
X300 5
IOB
IOB
IOB
IOB
-IOB
J2XX
X9XX 7
E29
-E29
UE1
TG5/U42
U42
IO4/IO5/IO6
D07
D07
J265
X314 6
X138 29
X4 50
47
45
48
49
46
X5 31
X4 44
X61A
Junction
Block -
Instrument
Panel
X1 50
X207 1
-D07
UQA/UQG
UVC
J350
E29
D07-E29/UQA/UQG/UVC
UQA/UQG/UVC/(-D07)
G325

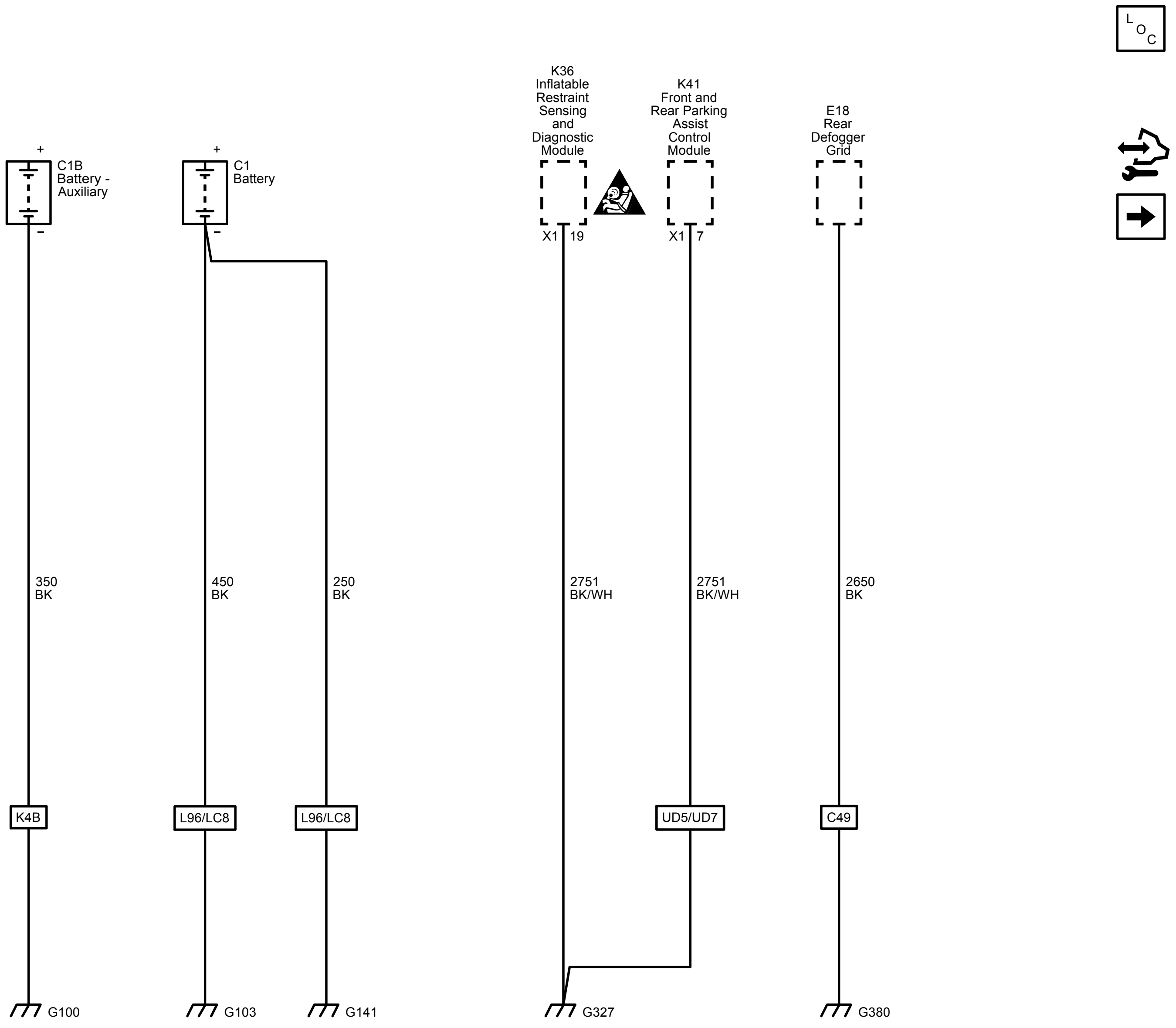
G100, G103, G108, G130, G140, G141, G237, and G380 (1500)



T8A Ignition Coil 1
T8C Ignition Coil 3
T8E Ignition Coil 5
T8G Ignition Coil 7
T8B Ignition Coil 2
T8D Ignition Coil 4
T8F Ignition Coil 6
T8H Ignition Coil 8
C1 Battery
C1B Battery - Auxiliary
E18 Rear Defogger Grid
K85 Passenger Presence Module
K36 Inflatable Restraint Sensing and Diagnostic Module
K41 Front and Rear Parking Assist Control Module
L O C
D E S C
+
-
1
4
X1 19
X1 7
350 BK
L83/L86
J167
J166
250 BK
450 BK
2650 BK
2751 BK/WH
X320
36
K4D
C49
UD5/UD7
G130
G140
G141
G103
G100
G380
G327

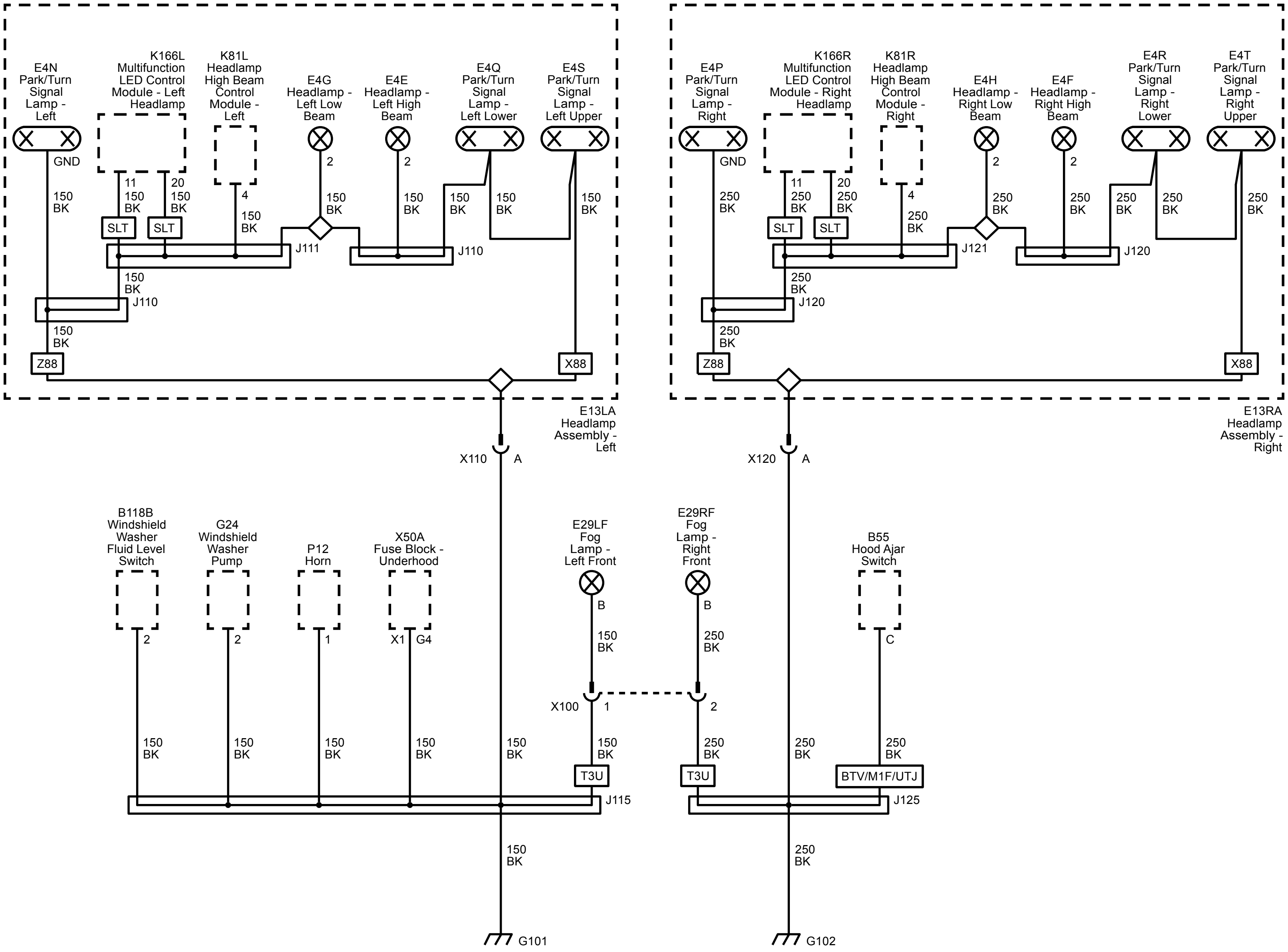
Ground Distribution Schematics ((2500/3500))

G100, G103, G141, G327, and G380 (2500/3500)



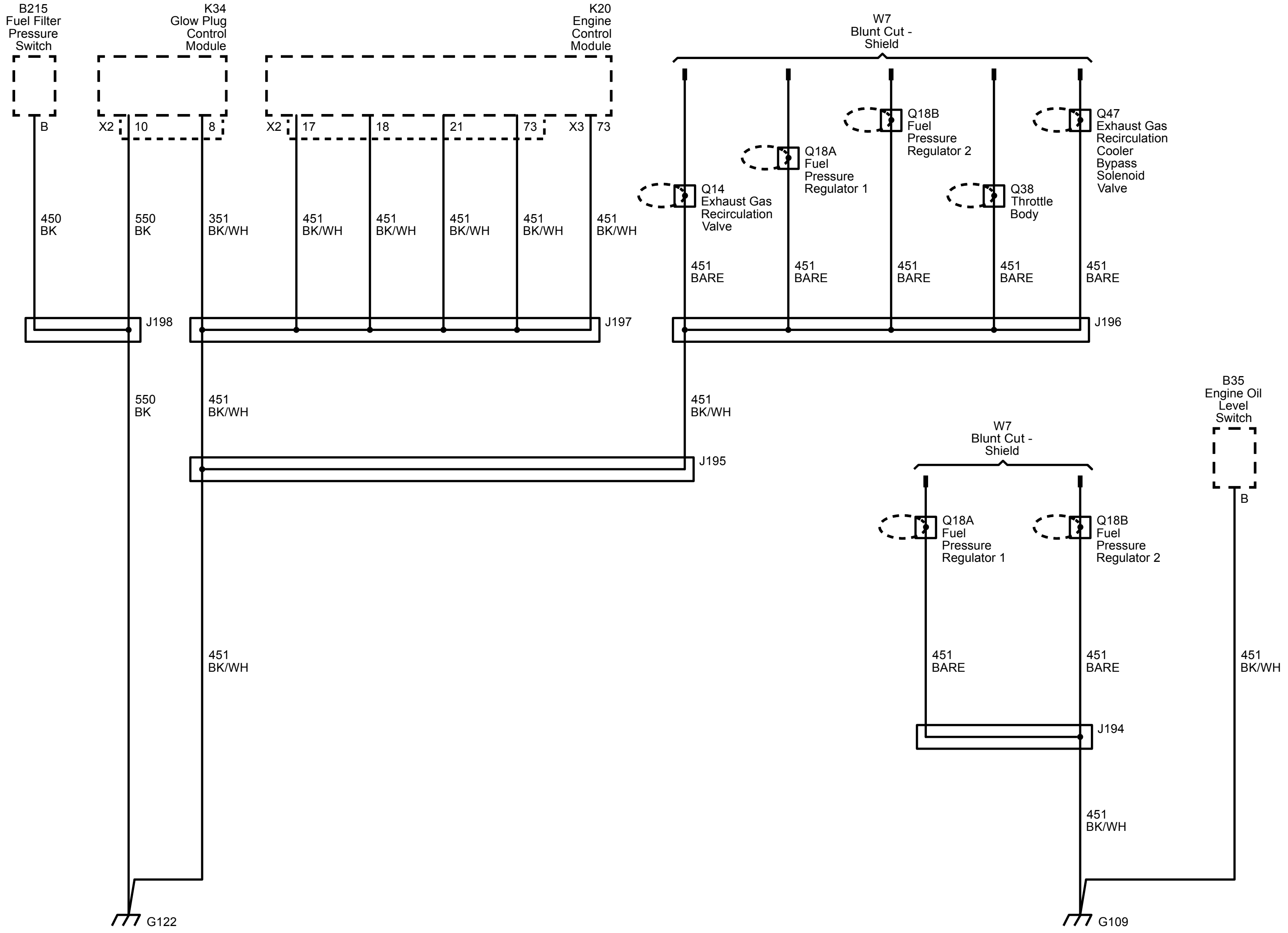
L O C
+
C1B Battery - Auxiliary
−
+
C1 Battery
−
K36 Inflatable Restraint Sensing and Diagnostic Module
X1 19
K41 Front and Rear Parking Assist Control Module
X1 7
E18 Rear Defogger Grid
350 BK
450 BK
250 BK
2751 BK/WH
2751 BK/WH
2650 BK
K4B
L96/LC8
L96/LC8
UD5/UD7
C49
G100
G103
G141
G327
G380

G101 and G102 (2500/3500)

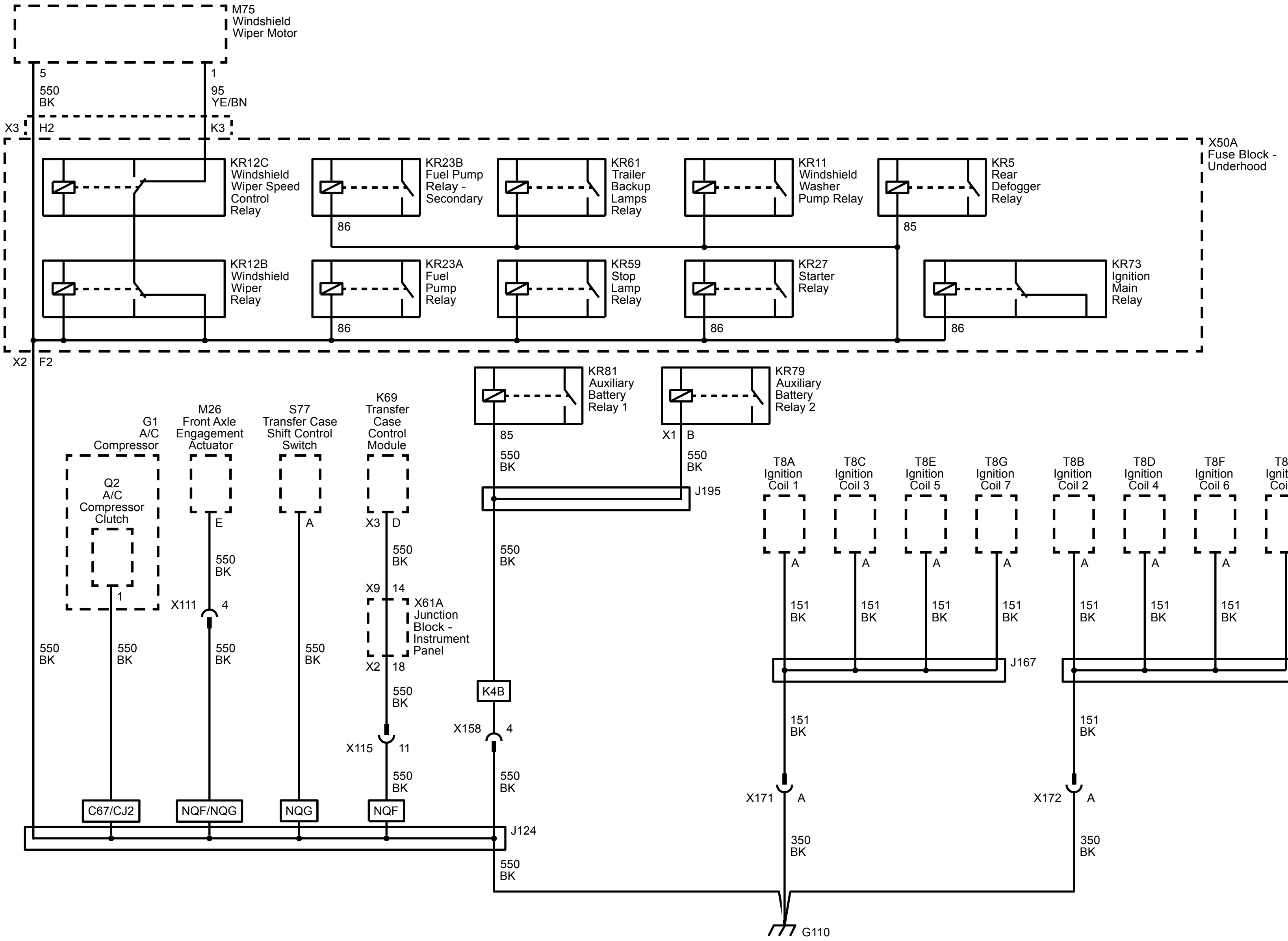


E4N Park/Turn Signal Lamp - Left
K166L Multifunction LED Control Module - Left Headlamp
K81L Headlamp High Beam Control Module - Left
E4G Headlamp - Left Low Beam
E4E Headlamp - Left High Beam
E4Q Park/Turn Signal Lamp - Left Lower
E4S Park/Turn Signal Lamp - Left Upper
GND
11
20
4
2
150 BK
SLT
J111
J110
Z88
X88
E13LA Headlamp Assembly - Left
X110
A
E4P Park/Turn Signal Lamp - Right
K166R Multifunction LED Control Module - Right Headlamp
K81R Headlamp High Beam Control Module - Right
E4H Headlamp - Right Low Beam
E4F Headlamp - Right High Beam
E4R Park/Turn Signal Lamp - Right Lower
E4T Park/Turn Signal Lamp - Right Upper
250 BK
J121
J120
E13RA Headlamp Assembly - Right
X120
B118B Windshield Washer Fluid Level Switch
G24 Windshield Washer Pump
P12 Horn
X50A Fuse Block - Underhood
X1
G4
1
E29LF Fog Lamp - Left Front
E29RF Fog Lamp - Right Front
B
B55 Hood Ajar Switch
C
X100
T3U
BTV/M1F/UTJ
J115
J125
G101
G102

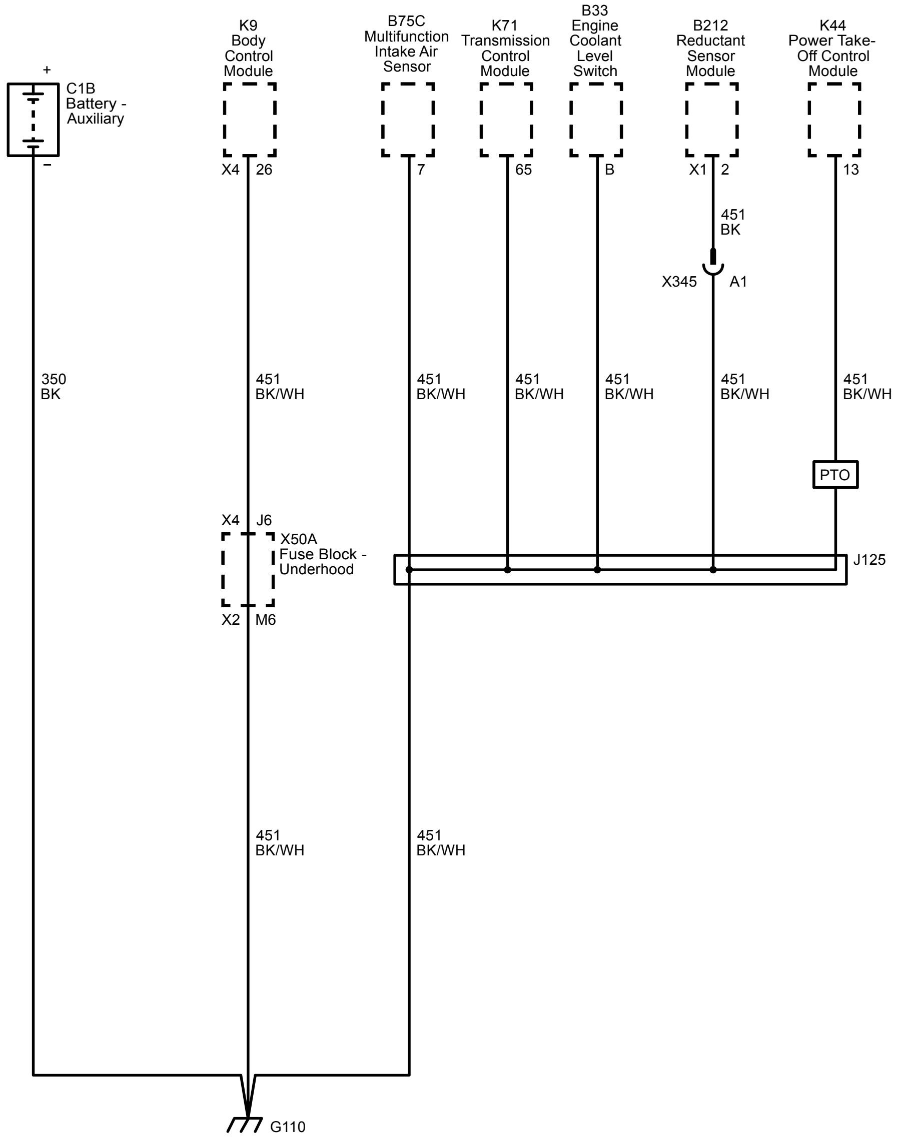
G109 and G122 (2500/3500 with LML)


B215
Fuel Filter
Pressure
Switch
K34
Glow Plug
Control
Module
K20
Engine
Control
Module
W7
Blunt Cut -
Shield
B
X2
10
8
X2
17
18
21
73
X3
73
Q18B
Fuel
Pressure
Regulator 2
Q47
Exhaust Gas
Recirculation
Cooler
Bypass
Solenoid
Valve
Q18A
Fuel
Pressure
Regulator 1
Q14
Exhaust Gas
Recirculation
Valve
Q38
Throttle
Body
450
BK
550
BK
351
BK/WH
451
BK/WH
451
BK/WH
451
BK/WH
451
BK/WH
451
BK/WH
451
BARE
451
BARE
451
BARE
451
BARE
451
BARE
J198
J197
J196
550
BK
451
BK/WH
451
BK/WH
J195
B35
Engine Oil
Level
Switch
W7
Blunt Cut -
Shield
B
Q18A
Fuel
Pressure
Regulator 1
Q18B
Fuel
Pressure
Regulator 2
451
BK/WH
451
BARE
451
BARE
451
BK/WH
J194
451
BK/WH
G122
G109

G110 (2500/3500 with L96 or LC8)

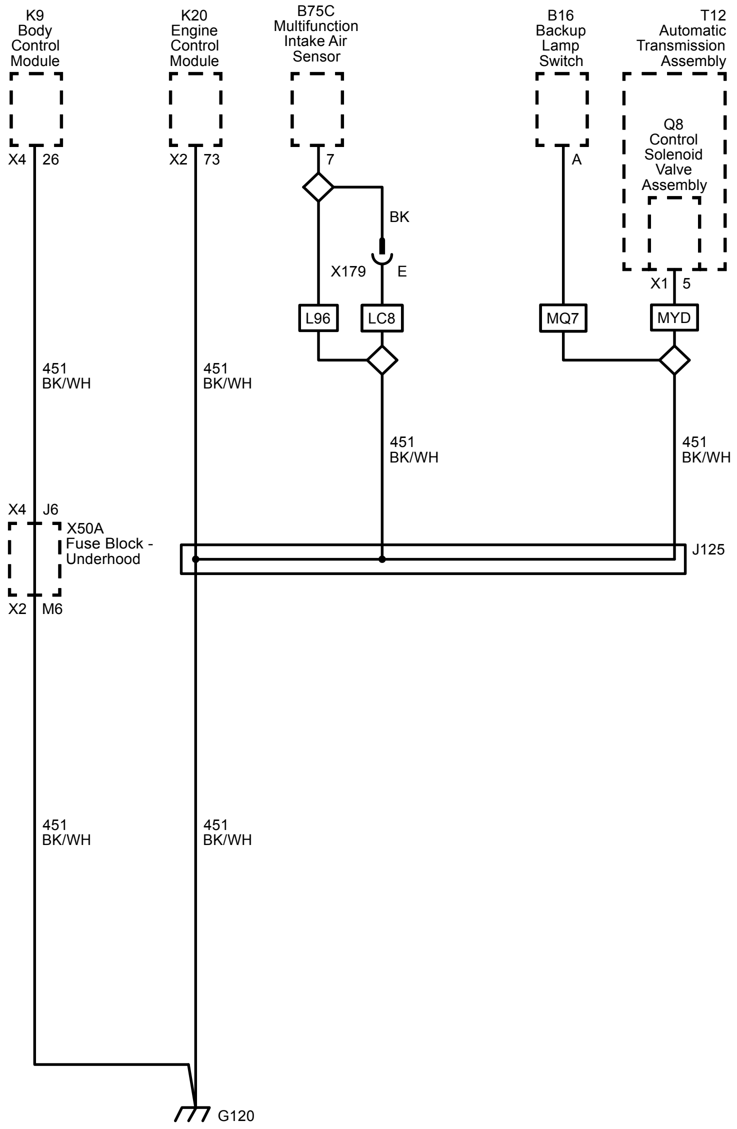

M75
Windshield
Wiper Motor
5
550
BK
1
95
YE/BN
X3
H2
K3
X50A
Fuse Block -
Underhood
KR12C
Windshield
Wiper Speed
Control
Relay
KR23B
Fuel Pump
Relay -
Secondary
86
KR61
Trailer
Backup
Lamps
Relay
KR11
Windshield
Washer
Pump Relay
KR5
Rear
Defogger
Relay
85
KR12B
Windshield
Wiper
Relay
KR23A
Fuel
Pump
Relay
86
KR59
Stop
Lamp
Relay
KR27
Starter
Relay
86
KR73
Ignition
Main
Relay
86
X2
F2
KR81
Auxiliary
Battery
Relay 1
85
550
BK
KR79
Auxiliary
Battery
Relay 2
X1
B
550
BK
J195
550
BK
G1
A/C
Compressor
Q2
A/C
Compressor
Clutch
1
M26
Front Axle
Engagement
Actuator
E
550
BK
X111
4
S77
Transfer Case
Shift Control
Switch
A
K69
Transfer
Case
Control
Module
X3
D
550
BK
X9
14
X61A
Junction
Block -
Instrument
Panel
X2
18
550
BK
X115
11
550
BK
550
BK
550
BK
550
BK
550
BK
K4B
X158
4
550
BK
C67/CJ2
NQF/NQG
NQG
NQF
J124
550
BK
T8A
Ignition
Coil 1
T8C
Ignition
Coil 3
T8E
Ignition
Coil 5
T8G
Ignition
Coil 7
T8B
Ignition
Coil 2
T8D
Ignition
Coil 4
T8F
Ignition
Coil 6
T8H
Ignition
Coil 8
A
151
BK
J167
J166
151
BK
151
BK
X171
A
X172
A
350
BK
350
BK
G110

G110 (2500/3500 with LML)

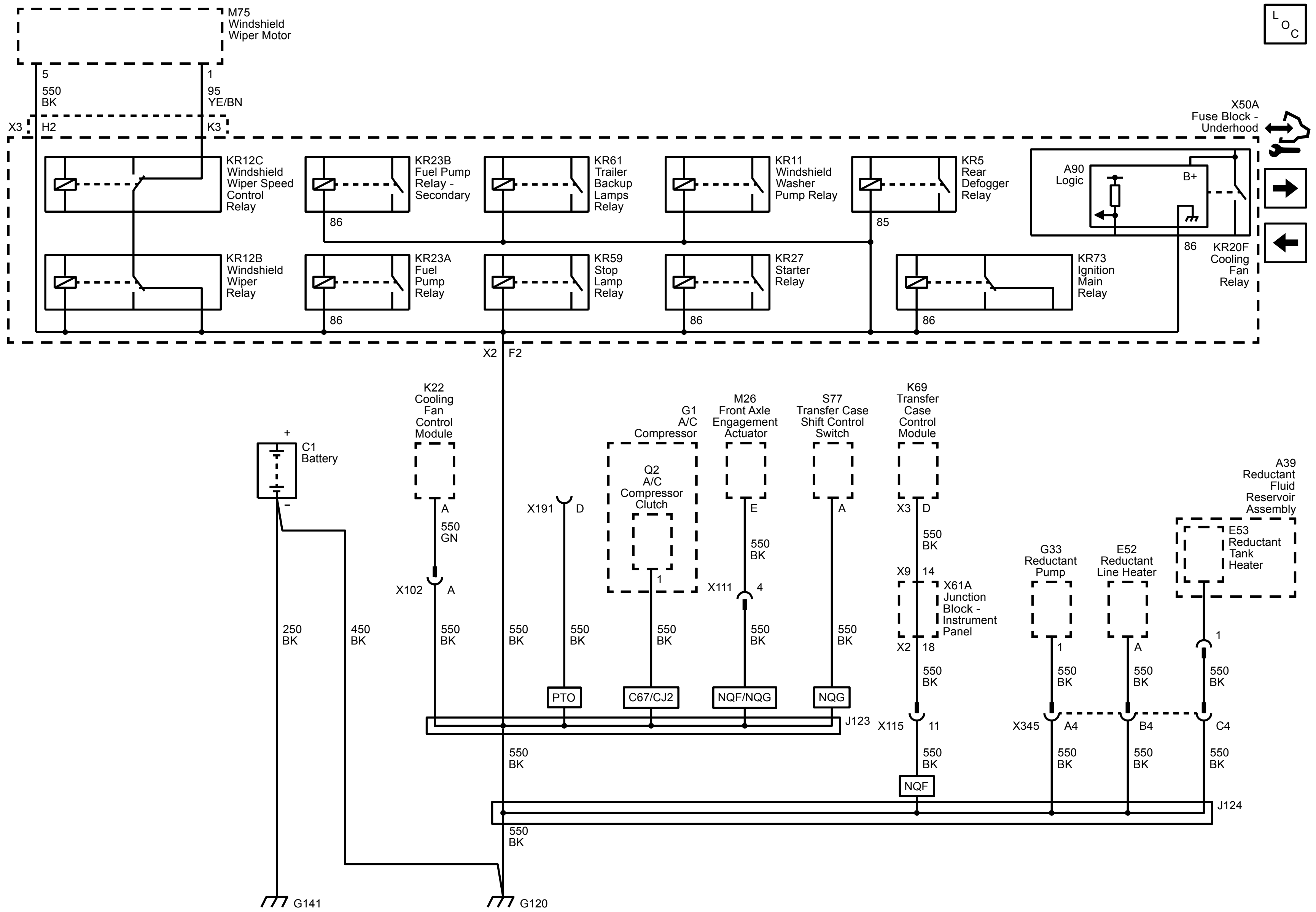


K9 Body Control Module
B75C Multifunction Intake Air Sensor
K71 Transmission Control Module
B33 Engine Coolant Level Switch
B212 Reductant Sensor Module
K44 Power Take-Off Control Module
+
C1B Battery - Auxiliary
-
X4 26
7
65
B
X1 2
13
451 BK
X345 A1
350 BK
451 BK/WH
451 BK/WH
451 BK/WH
451 BK/WH
451 BK/WH
451 BK/WH
PTO
X4 J6
X50A Fuse Block - Underhood
X2 M6
J125
451 BK/WH
451 BK/WH
G110

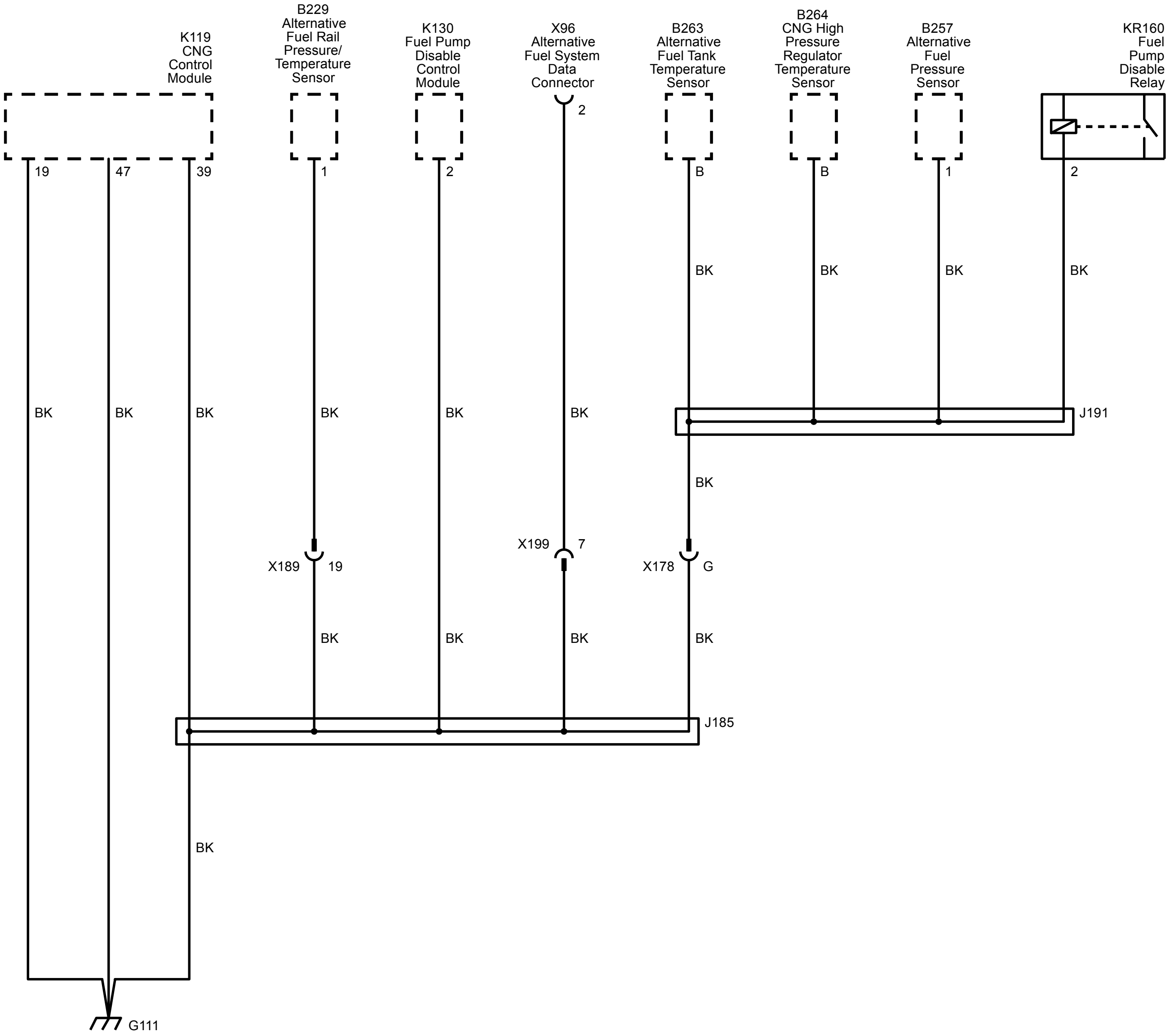
G120 (2500/3500 with L96 or LC8)


K9
Body
Control
Module
X4 26
K20
Engine
Control
Module
X2 73
B75C
Multifunction
Intake Air
Sensor
7
BK
X179 E
L96
LC8
B16
Backup
Lamp
Switch
A
MQ7
T12
Automatic
Transmission
Assembly
Q8
Control
Solenoid
Valve
Assembly
X1 5
MYD
451
BK/WH
451
BK/WH
451
BK/WH
451
BK/WH
X4 J6
X50A
Fuse Block -
Underhood
X2 M6
J125
451
BK/WH
451
BK/WH
G120

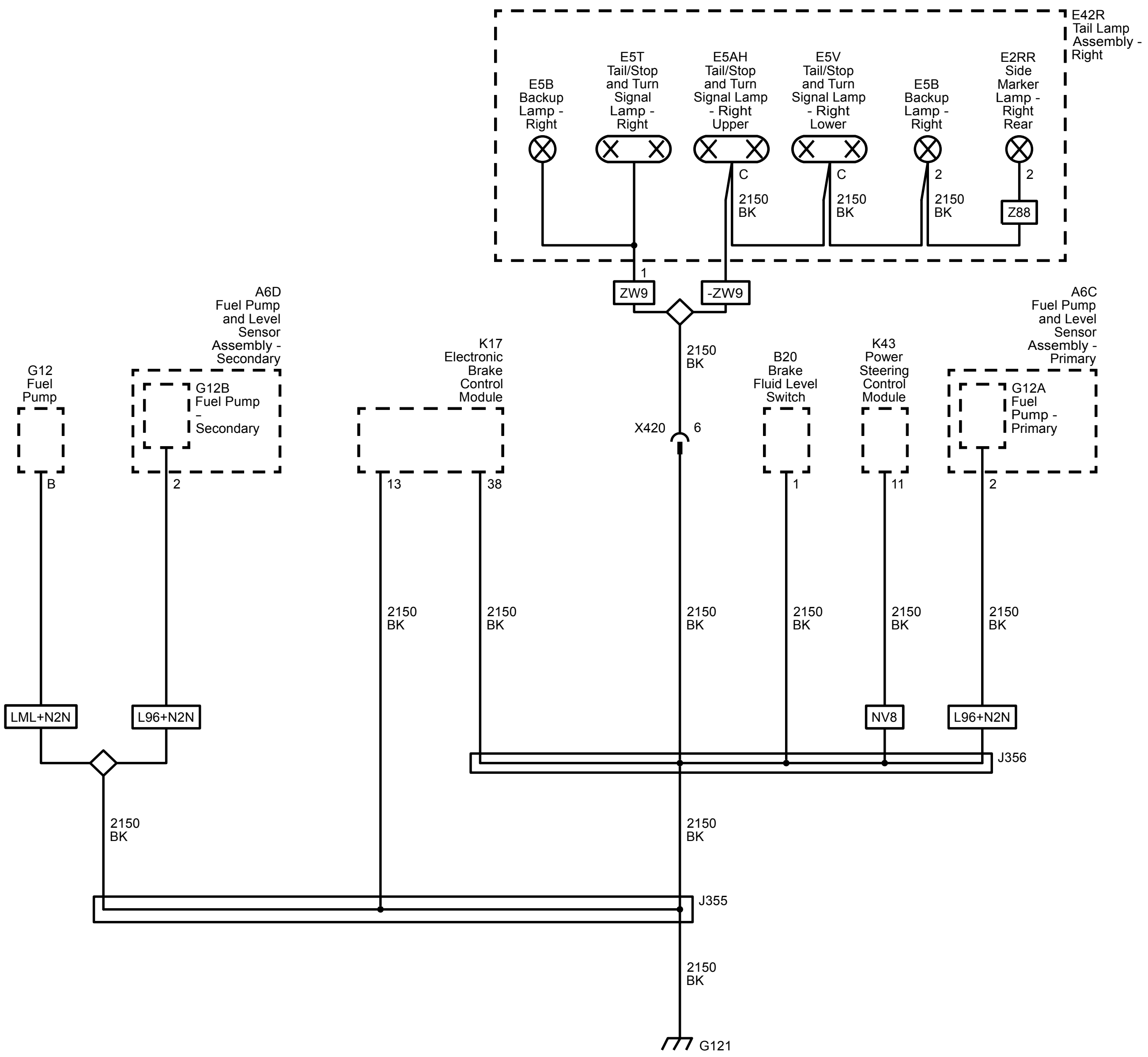
G120 (2500/3500 with LML)


M75 Windshield Wiper Motor
5
550 BK
1
95 YE/BN
X3
H2
K3
L O C
X50A Fuse Block - Underhood
KR12C Windshield Wiper Speed Control Relay
KR23B Fuel Pump Relay - Secondary
86
KR61 Trailer Backup Lamps Relay
KR11 Windshield Washer Pump Relay
KR5 Rear Defogger Relay
85
A90 Logic
B+
86
KR20F Cooling Fan Relay
KR12B Windshield Wiper Relay
KR23A Fuel Pump Relay
86
KR59 Stop Lamp Relay
KR27 Starter Relay
86
KR73 Ignition Main Relay
86
X2
F2
K22 Cooling Fan Control Module
G1 A/C Compressor
M26 Front Axle Engagement Actuator
S77 Transfer Case Shift Control Switch
K69 Transfer Case Control Module
A39 Reductant Fluid Reservoir Assembly
+
C1 Battery
-
Q2 A/C Compressor Clutch
A
550 GN
X191
D
E
A
X3
D
550 BK
550 BK
E53 Reductant Tank Heater
X102
A
1
X111
4
X9
14
X61A Junction Block - Instrument Panel
G33 Reductant Pump
E52 Reductant Line Heater
250 BK
450 BK
550 BK
550 BK
550 BK
550 BK
550 BK
550 BK
X2
18
1
A
1
550 BK
550 BK
550 BK
550 BK
PTO
C67/CJ2
NQF/NQG
NQG
J123
X115
11
X345
A4
B4
C4
550 BK
550 BK
550 BK
550 BK
550 BK
NQF
J124
550 BK
G141
G120

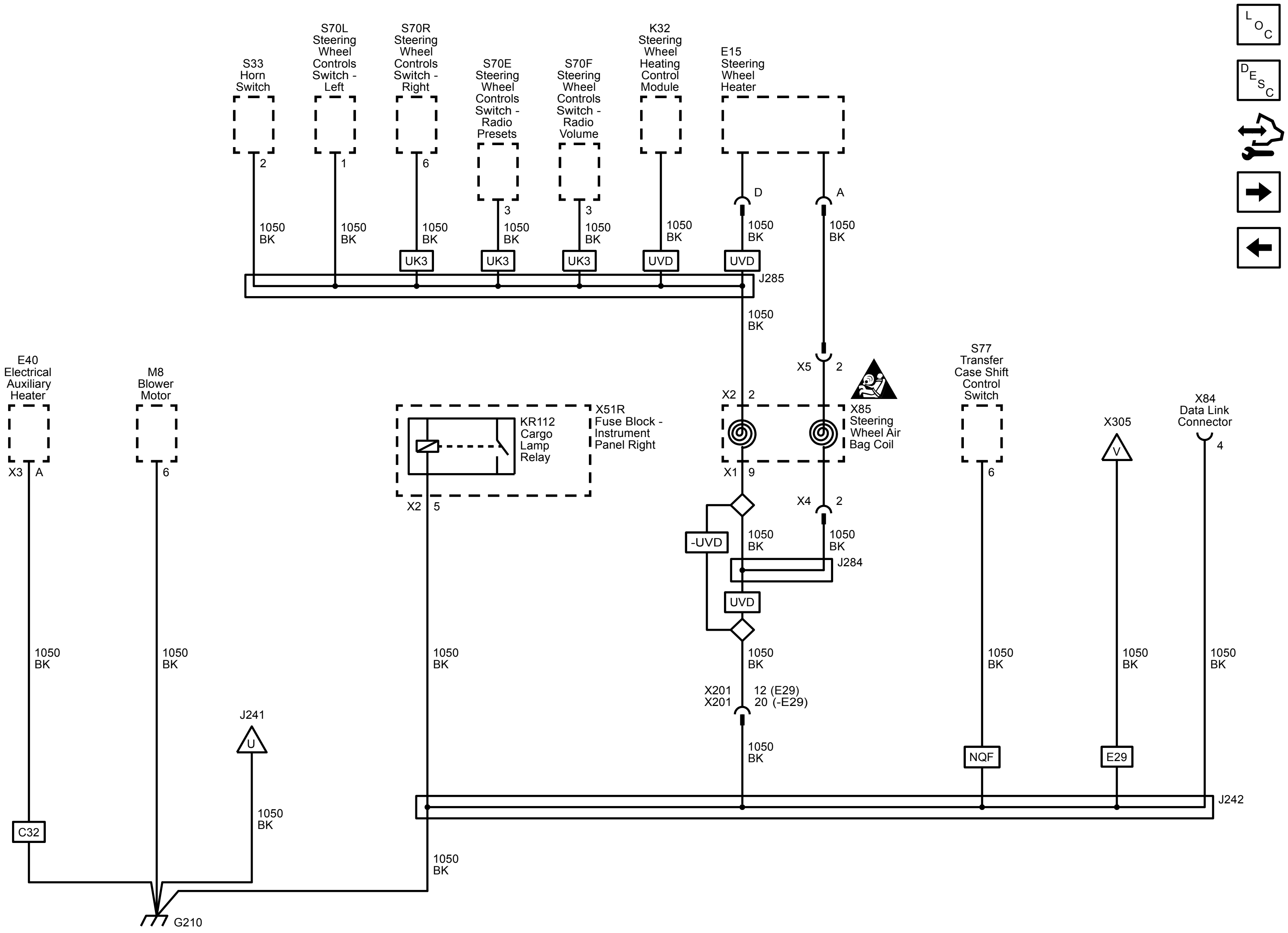
G111 (2500/3500 with LC8)


K119
CNG
Control
Module
B229
Alternative
Fuel Rail
Pressure/
Temperature
Sensor
K130
Fuel Pump
Disable
Control
Module
X96
Alternative
Fuel System
Data
Connector
B263
Alternative
Fuel Tank
Temperature
Sensor
B264
CNG High
Pressure
Regulator
Temperature
Sensor
B257
Alternative
Fuel
Pressure
Sensor
KR160
Fuel
Pump
Disable
Relay
19
47
39
1
2
2
B
B
1
2
BK
J191
X189
19
X199
7
X178
G
J185
G111

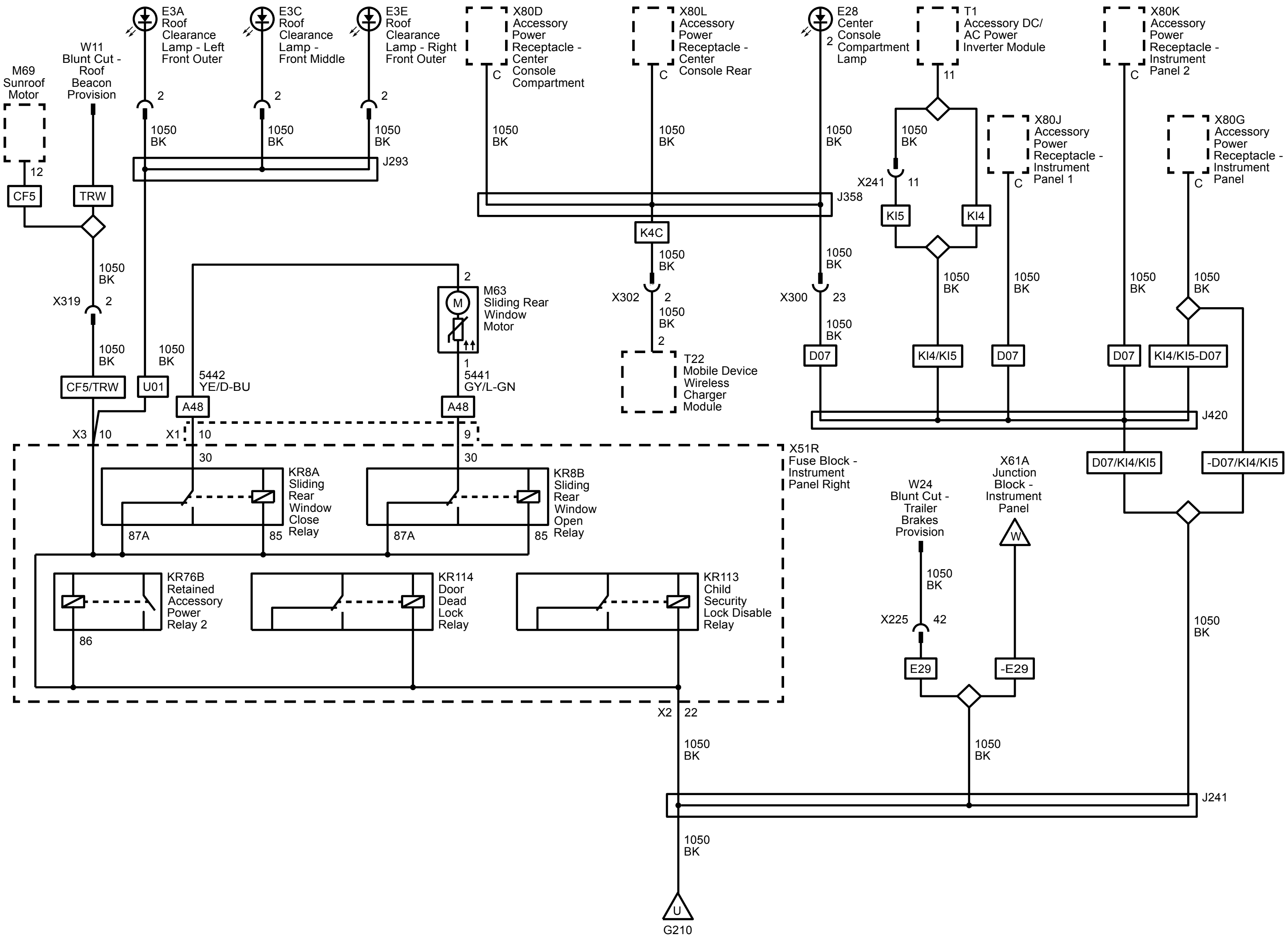
G121 (2500/3500)


E42R Tail Lamp Assembly - Right
E5B Backup Lamp - Right
E5T Tail/Stop and Turn Signal Lamp - Right
E5AH Tail/Stop and Turn Signal Lamp - Right Upper
E5V Tail/Stop and Turn Signal Lamp - Right Lower
E5B Backup Lamp - Right
E2RR Side Marker Lamp - Right Rear
C
2150 BK
C
2150 BK
2
2150 BK
2
Z88
1
ZW9
-ZW9
2150 BK
A6D Fuel Pump and Level Sensor Assembly - Secondary
G12B Fuel Pump - Secondary
G12 Fuel Pump
K17 Electronic Brake Control Module
X420
6
B20 Brake Fluid Level Switch
K43 Power Steering Control Module
A6C Fuel Pump and Level Sensor Assembly - Primary
G12A Fuel Pump - Primary
B
2
13
38
1
11
2
2150 BK
2150 BK
2150 BK
2150 BK
2150 BK
2150 BK
LML+N2N
L96+N2N
NV8
L96+N2N
J356
2150 BK
2150 BK
J355
2150 BK
G121

G210 1 of 3 (2500/3500)

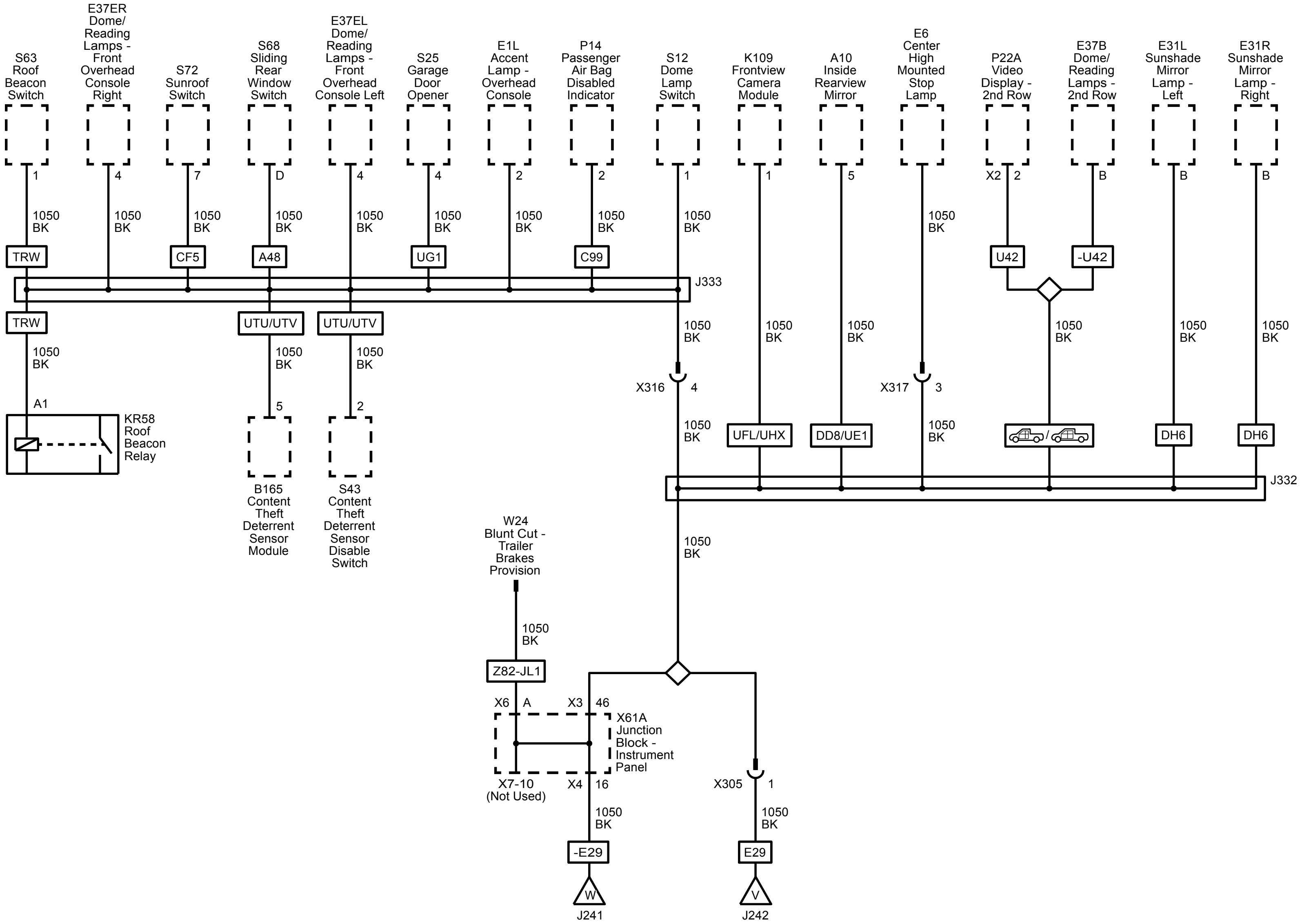

S33 Horn Switch
S70L Steering Wheel Controls Switch - Left
S70R Steering Wheel Controls Switch - Right
S70E Steering Wheel Controls Switch - Radio Presets
S70F Steering Wheel Controls Switch - Radio Volume
K32 Steering Wheel Heating Control Module
E15 Steering Wheel Heater
2
1
6
3
3
D
A
1050 BK
UK3
UK3
UK3
UVD
UVD
J285
X5 2
E40 Electrical Auxiliary Heater
M8 Blower Motor
X51R Fuse Block - Instrument Panel Right
KR112 Cargo Lamp Relay
X2 2
X85 Steering Wheel Air Bag Coil
S77 Transfer Case Shift Control Switch
X305
V
X84 Data Link Connector
4
X3 A
6
X2 5
X1 9
X4 2
-UVD
J284
UVD
X201 12 (E29)
X201 20 (-E29)
J241
U
NQF
E29
C32
J242
G210

G210 2 of 3 (2500/3500)

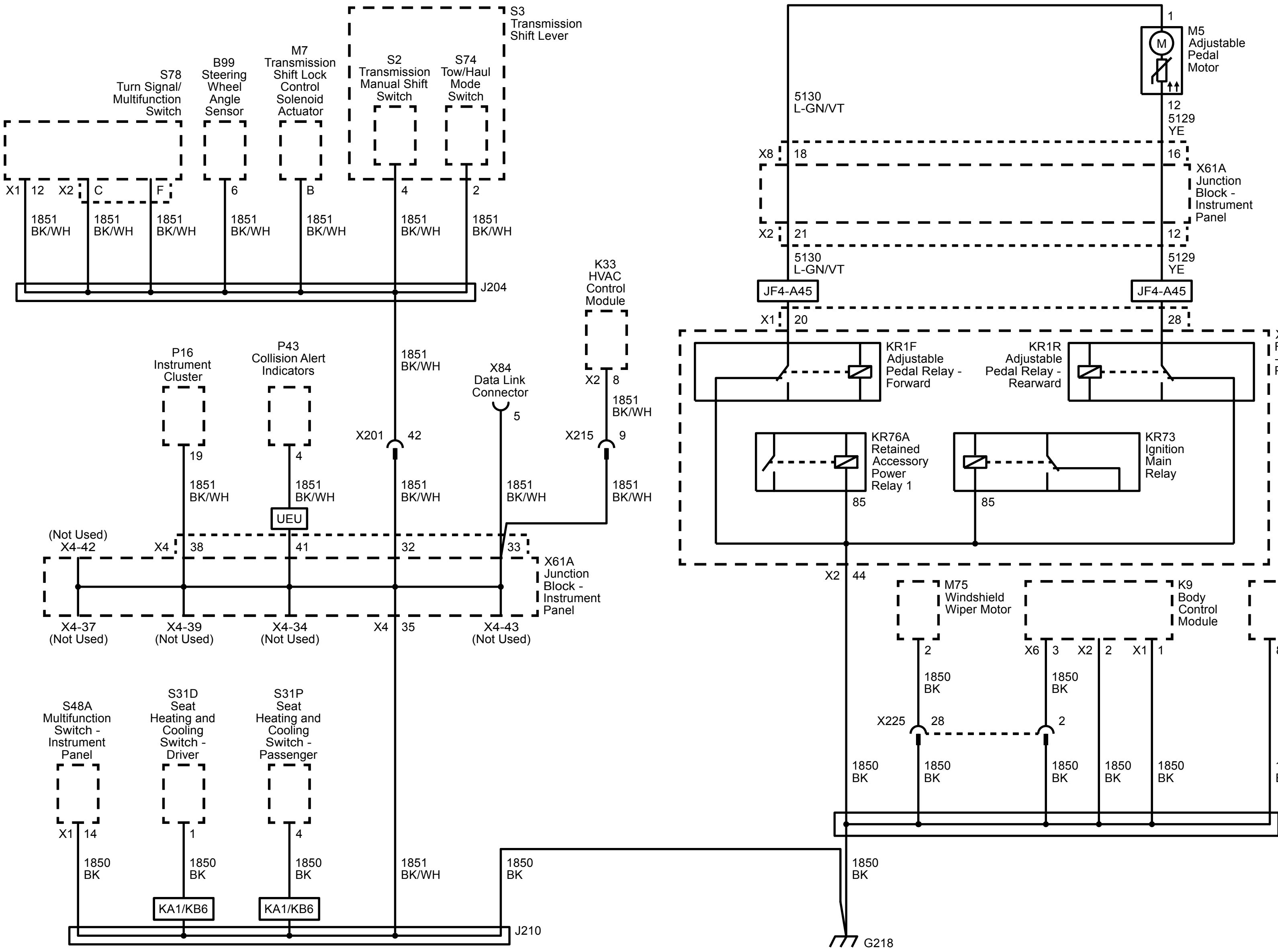


E3A Roof Clearance Lamp - Left Front Outer
E3C Roof Clearance Lamp - Front Middle
E3E Roof Clearance Lamp - Right Front Outer
X80D Accessory Power Receptacle - Center Console Compartment
X80L Accessory Power Receptacle - Center Console Rear
E28 Center Console Compartment Lamp
T1 Accessory DC/AC Power Inverter Module
X80K Accessory Power Receptacle - Instrument Panel 2
X80J Accessory Power Receptacle - Instrument Panel 1
X80G Accessory Power Receptacle - Instrument Panel
W11 Blunt Cut - Roof Beacon Provision
M69 Sunroof Motor
M63 Sliding Rear Window Motor
T22 Mobile Device Wireless Charger Module
X51R Fuse Block - Instrument Panel Right
KR8A Sliding Rear Window Close Relay
KR8B Sliding Rear Window Open Relay
KR76B Retained Accessory Power Relay 2
KR114 Door Dead Lock Relay
KR113 Child Security Lock Disable Relay
W24 Blunt Cut - Trailer Brakes Provision
X61A Junction Block - Instrument Panel
J293
J358
J420
J241
X319
X241
X302
X300
X225
X3
X1
X2
CF5
TRW
CF5/TRW
U01
A48
K4C
KI5
KI4
KI4/KI5
D07
KI4/KI5-D07
D07/KI4/KI5
-D07/KI4/KI5
E29
-E29
W
U
G210
1050 BK
5442 YE/D-BU
5441 GY/L-GN
C
2
11
12
10
9
30
87A
85
86
23
22
42
1
M

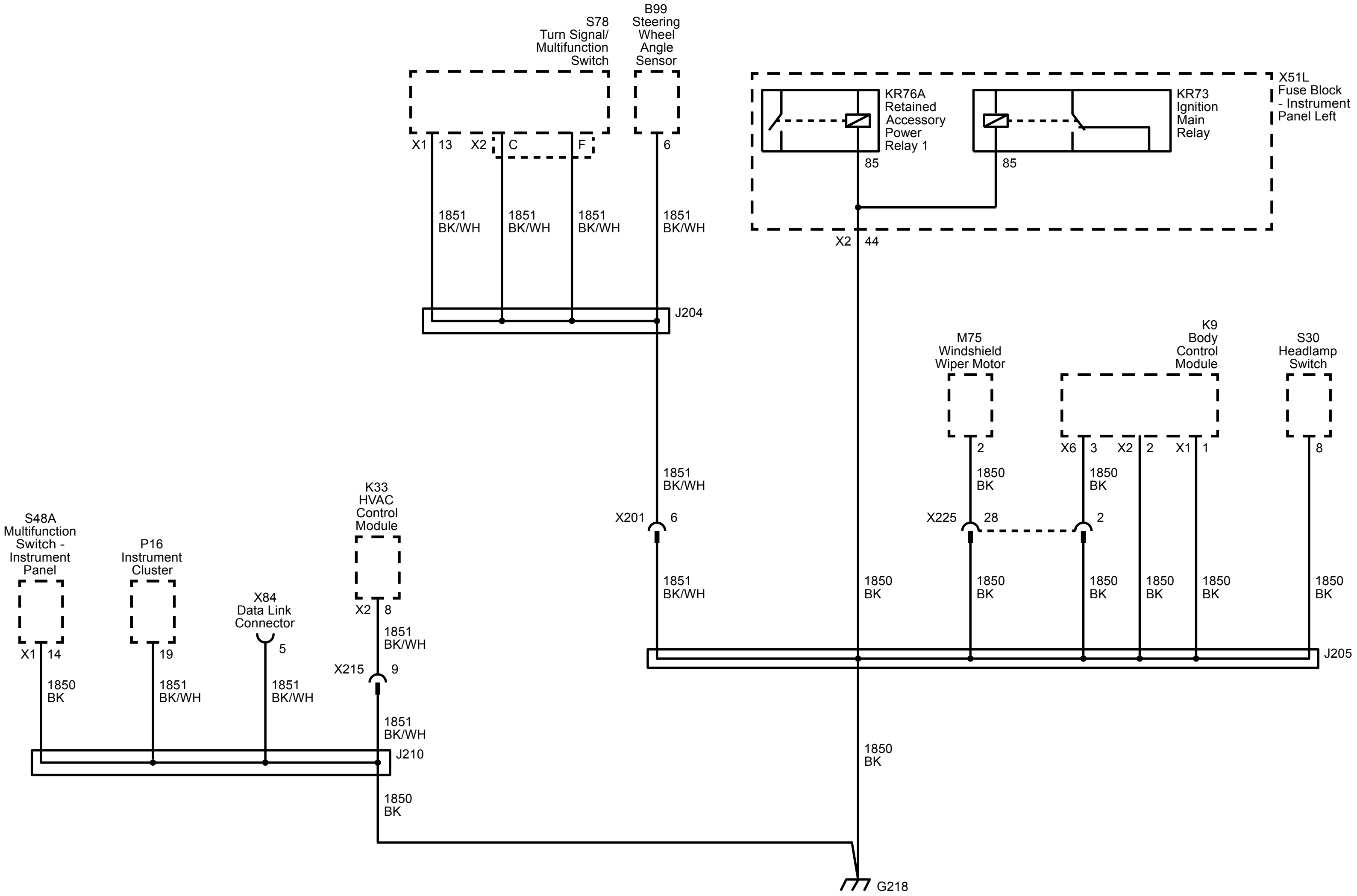
G210 (2500/3500)


S63 Roof Beacon Switch
E37ER Dome/ Reading Lamps - Front Overhead Console Right
S72 Sunroof Switch
S68 Sliding Rear Window Switch
E37EL Dome/ Reading Lamps - Front Overhead Console Left
S25 Garage Door Opener
E1L Accent Lamp - Overhead Console
P14 Passenger Air Bag Disabled Indicator
S12 Dome Lamp Switch
K109 Frontview Camera Module
A10 Inside Rearview Mirror
E6 Center High Mounted Stop Lamp
P22A Video Display - 2nd Row
E37B Dome/ Reading Lamps - 2nd Row
E31L Sunshade Mirror Lamp - Left
E31R Sunshade Mirror Lamp - Right
1
4
7
D
4
4
2
2
1
1
5
X2 2
B
B
B
1050 BK
TRW
CF5
A48
UG1
C99
U42
-U42
J333
TRW
UTU/UTV
UTU/UTV
A1
KR58 Roof Beacon Relay
5
2
B165 Content Theft Deterrent Sensor Module
S43 Content Theft Deterrent Sensor Disable Switch
X316 4
X317 3
UFL/UHX
DD8/UE1
DH6
DH6
J332
W24 Blunt Cut - Trailer Brakes Provision
Z82-JL1
X6 A
X3 46
X61A Junction Block - Instrument Panel
X7-10 (Not Used)
X4 16
X305 1
-E29
E29
W
J241
V
J242

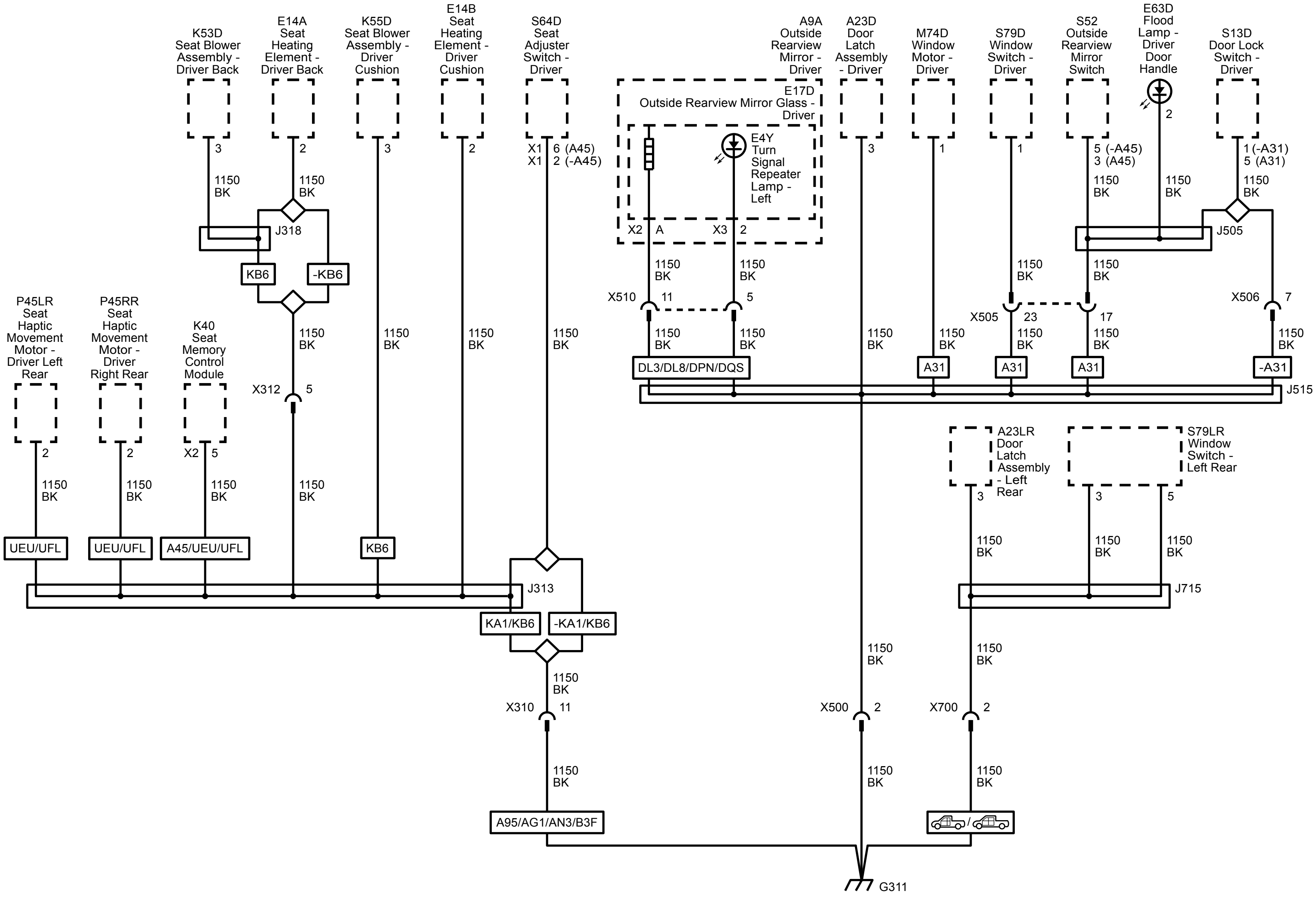
G218 (2500/3500 except E29)


S3 Transmission Shift Lever
S78 Turn Signal/ Multifunction Switch
B99 Steering Wheel Angle Sensor
M7 Transmission Shift Lock Control Solenoid Actuator
S2 Transmission Manual Shift Switch
S74 Tow/Haul Mode Switch
X1 12 X2 C F 6 B 4 2
1851 BK/WH
J204
K33 HVAC Control Module
X2 8
P16 Instrument Cluster
P43 Collision Alert Indicators
X84 Data Link Connector
5
19
4
X201 42
X215 9
UEU
(Not Used) X4-42
X4 38 41 32 33
X61A Junction Block - Instrument Panel
X4-37 (Not Used)
X4-39 (Not Used)
X4-34 (Not Used)
X4 35
X4-43 (Not Used)
S48A Multifunction Switch - Instrument Panel
S31D Seat Heating and Cooling Switch - Driver
S31P Seat Heating and Cooling Switch - Passenger
X1 14
1
4
1850 BK
KA1/KB6
J210
M5 Adjustable Pedal Motor
M
1
12
5130 L-GN/VT
5129 YE
X8 18
16
X61A Junction Block - Instrument Panel
X2 21
12
JF4-A45
X1 20
28
X51L Fuse Block - Instrument Panel Left
KR1F Adjustable Pedal Relay - Forward
KR1R Adjustable Pedal Relay - Rearward
KR76A Retained Accessory Power Relay 1
KR73 Ignition Main Relay
85
X2 44
M75 Windshield Wiper Motor
K9 Body Control Module
S30 Headlamp Switch
2
X6 3 X2 2 X1 1
8
X225 28
2
J205
G218

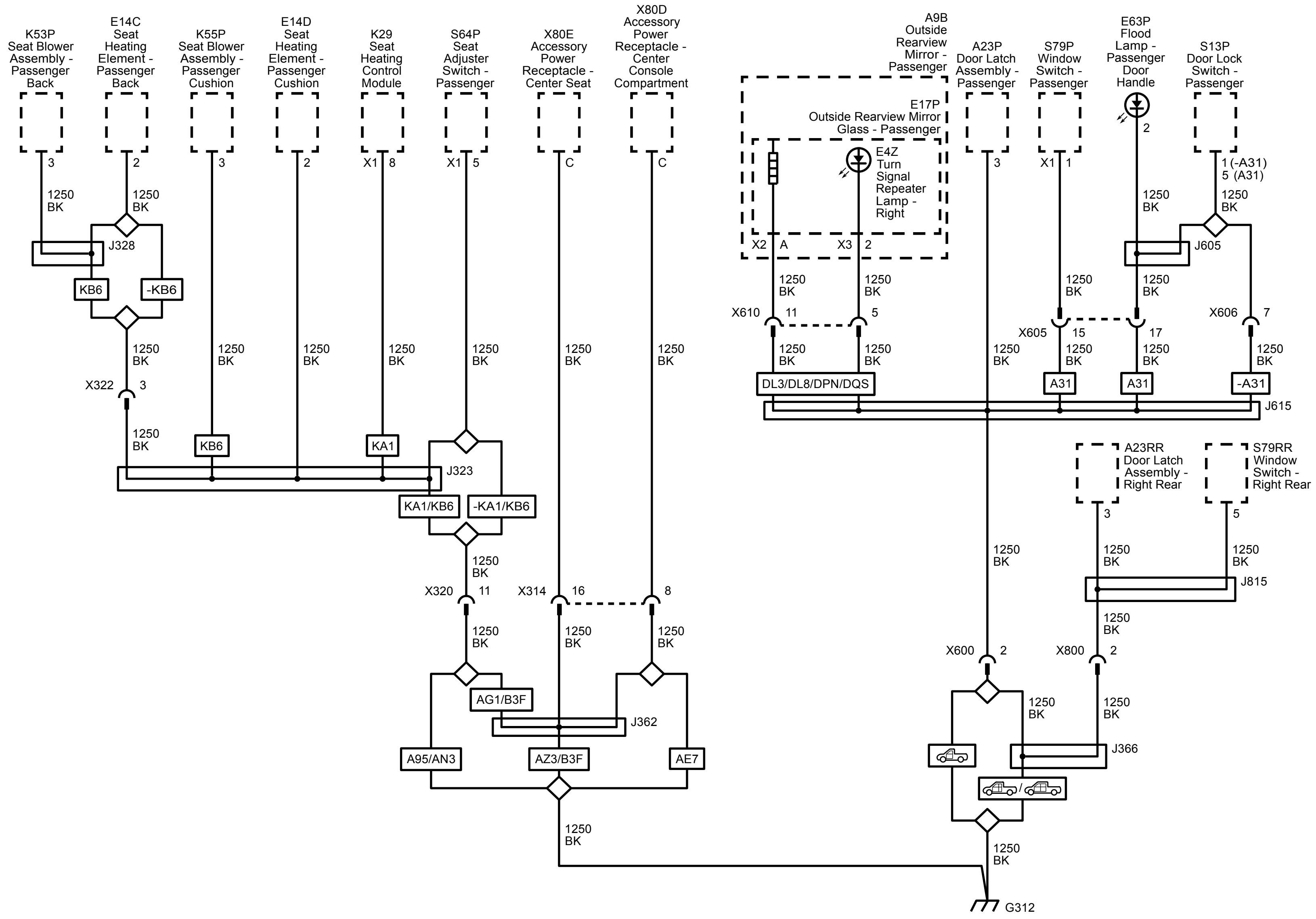
G218 (2500/3500 with E29)


S78
Turn Signal/
Multifunction
Switch
B99
Steering
Wheel
Angle
Sensor
X1 13 X2 C F
6
1851
BK/WH
1851
BK/WH
1851
BK/WH
1851
BK/WH
J204
KR76A
Retained
Accessory
Power
Relay 1
85
KR73
Ignition
Main
Relay
85
X51L
Fuse Block
- Instrument
Panel Left
X2 44
M75
Windshield
Wiper Motor
2
K9
Body
Control
Module
X6 3 X2 2 X1 1
S30
Headlamp
Switch
8
1851
BK/WH
X201 6
1851
BK/WH
1850
BK
1850
BK
X225 28
2
1850
BK
1850
BK
1850
BK
1850
BK
1850
BK
1850
BK
J205
1850
BK
S48A
Multifunction
Switch -
Instrument
Panel
P16
Instrument
Cluster
X84
Data Link
Connector
K33
HVAC
Control
Module
X1 14
19
5
X2 8
1851
BK/WH
X215 9
1850
BK
1851
BK/WH
1851
BK/WH
1851
BK/WH
J210
1850
BK
G218

G311 (2500/3500)

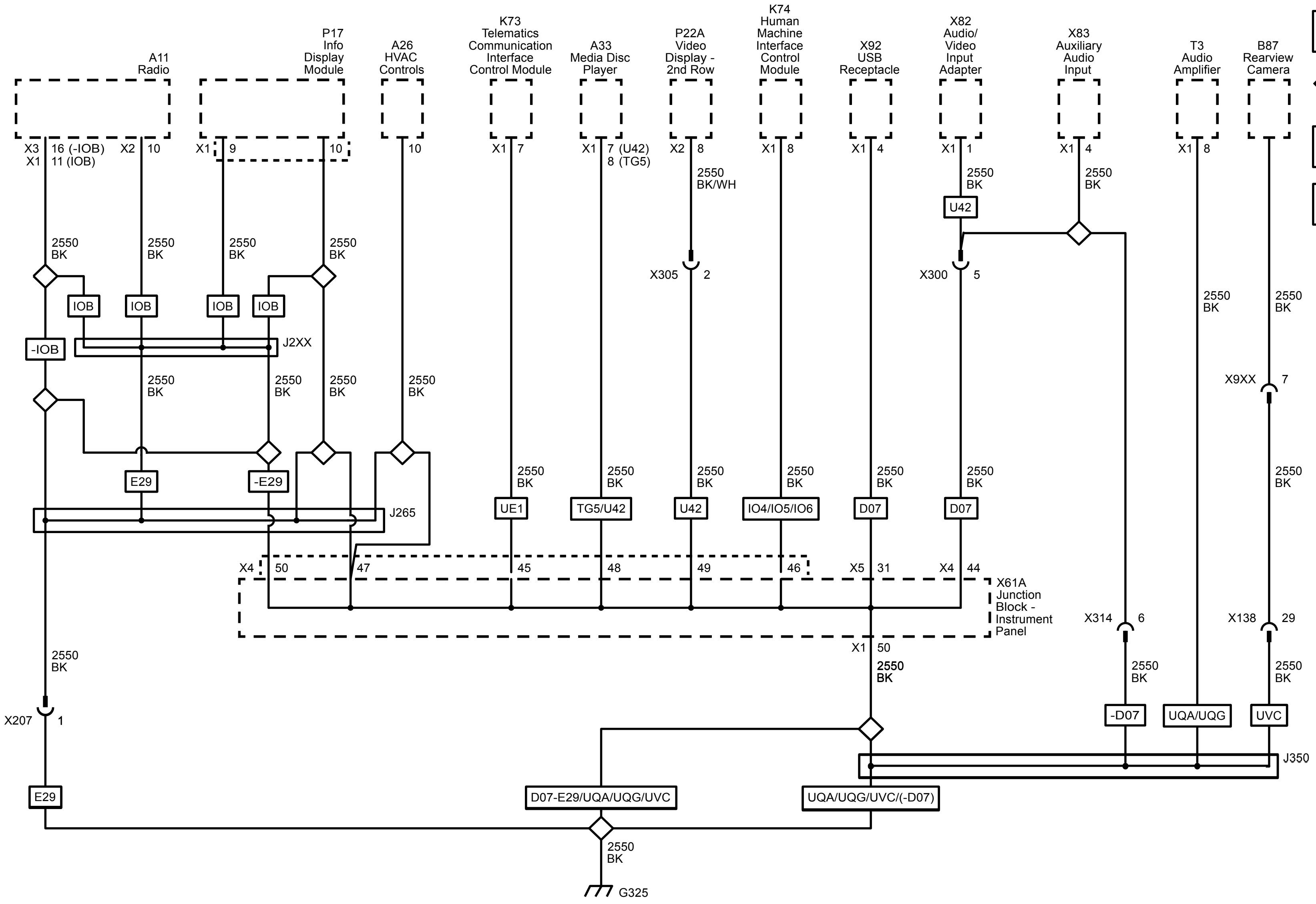

K53D Seat Blower Assembly - Driver Back
E14A Seat Heating Element - Driver Back
K55D Seat Blower Assembly - Driver Cushion
E14B Seat Heating Element - Driver Cushion
S64D Seat Adjuster Switch - Driver
A9A Outside Rearview Mirror - Driver
E17D Outside Rearview Mirror Glass - Driver
E4Y Turn Signal Repeater Lamp - Left
A23D Door Latch Assembly - Driver
M74D Window Motor - Driver
S79D Window Switch - Driver
S52 Outside Rearview Mirror Switch
E63D Flood Lamp - Driver Door Handle
S13D Door Lock Switch - Driver
P45LR Seat Haptic Movement Motor - Driver Left Rear
P45RR Seat Haptic Movement Motor - Driver Right Rear
K40 Seat Memory Control Module
A23LR Door Latch Assembly - Left Rear
S79LR Window Switch - Left Rear
3
2
3
2
X1 6 (A45)
X1 2 (-A45)
X2 A
X3 2
3
1
1
5 (-A45)
3 (A45)
2
1 (-A31)
5 (A31)
1150 BK
J318
KB6
-KB6
J505
X510 11
5
X505 23
17
X506 7
DL3/DL8/DPN/DQS
A31
A31
A31
-A31
J515
X312 5
2
2
X2 5
UEU/UFL
UEU/UFL
A45/UEU/UFL
KB6
J313
KA1/KB6
-KA1/KB6
X310 11
A95/AG1/AN3/B3F
X500 2
X700 2
3
3
5
J715
G311

G312 (2500/3500)

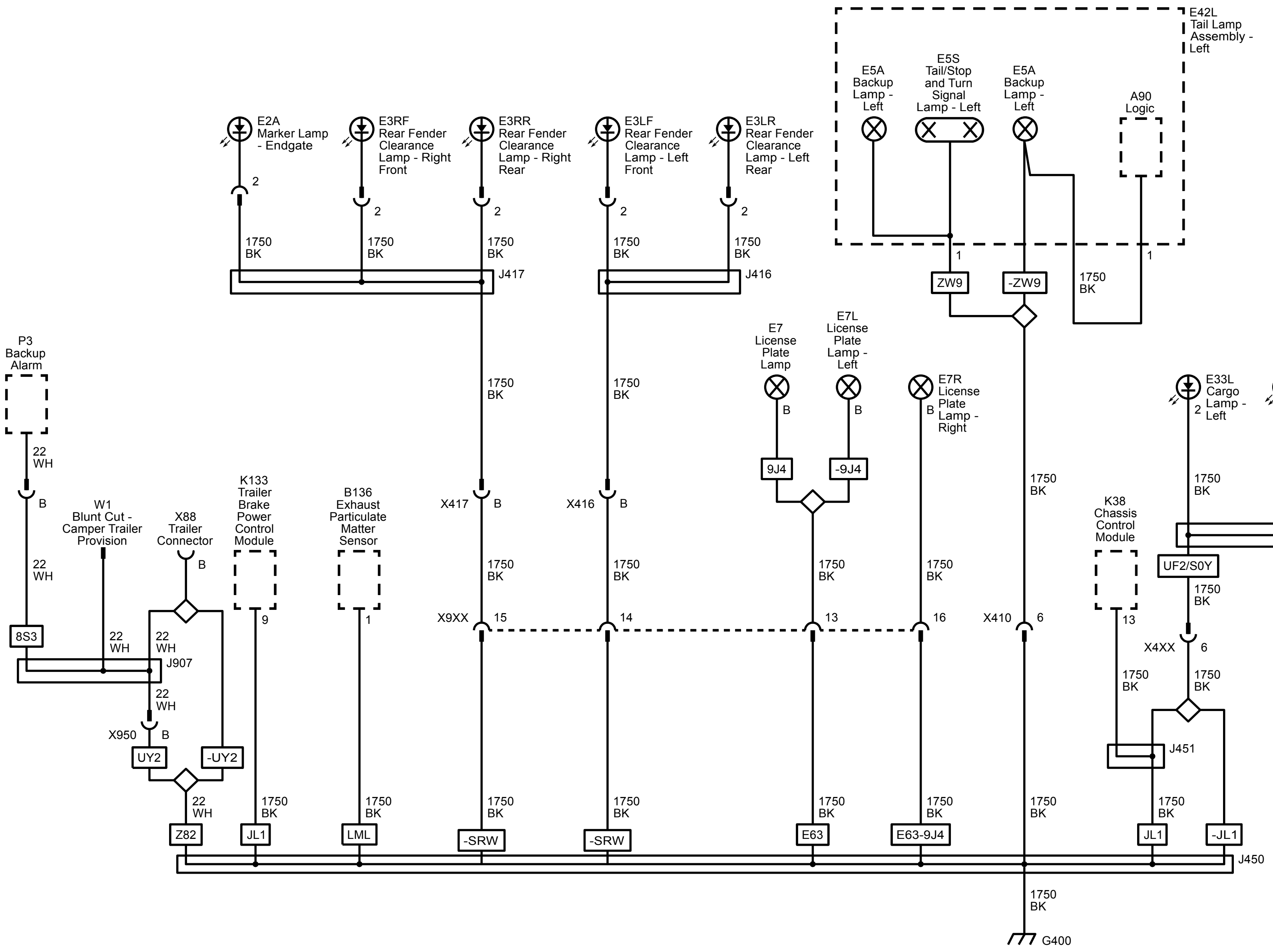


K53P Seat Blower Assembly - Passenger Back
E14C Seat Heating Element - Passenger Back
K55P Seat Blower Assembly - Passenger Cushion
E14D Seat Heating Element - Passenger Cushion
K29 Seat Heating Control Module
S64P Seat Adjuster Switch - Passenger
X80E Accessory Power Receptacle - Center Seat
X80D Accessory Power Receptacle - Center Console Compartment
A9B Outside Rearview Mirror - Passenger
E17P Outside Rearview Mirror Glass - Passenger
E4Z Turn Signal Repeater Lamp - Right
A23P Door Latch Assembly - Passenger
S79P Window Switch - Passenger
E63P Flood Lamp - Passenger Door Handle
S13P Door Lock Switch - Passenger
3
2
3
2
X1 8
X1 5
C
C
X2 A
X3 2
3
X1 1
2
1 (-A31)
5 (A31)
1250 BK
J328
KB6
-KB6
X322 3
KB6
KA1
J323
KA1/KB6
-KA1/KB6
X320 11
X314 16
8
AG1/B3F
J362
A95/AN3
AZ3/B3F
AE7
X610 11
5
X605 15
17
X606 7
J605
DL3/DL8/DPN/DQS
A31
A31
-A31
J615
A23RR Door Latch Assembly - Right Rear
S79RR Window Switch - Right Rear
3
5
J815
X600 2
X800 2
J366
/
G312

G325 (2500/3500)

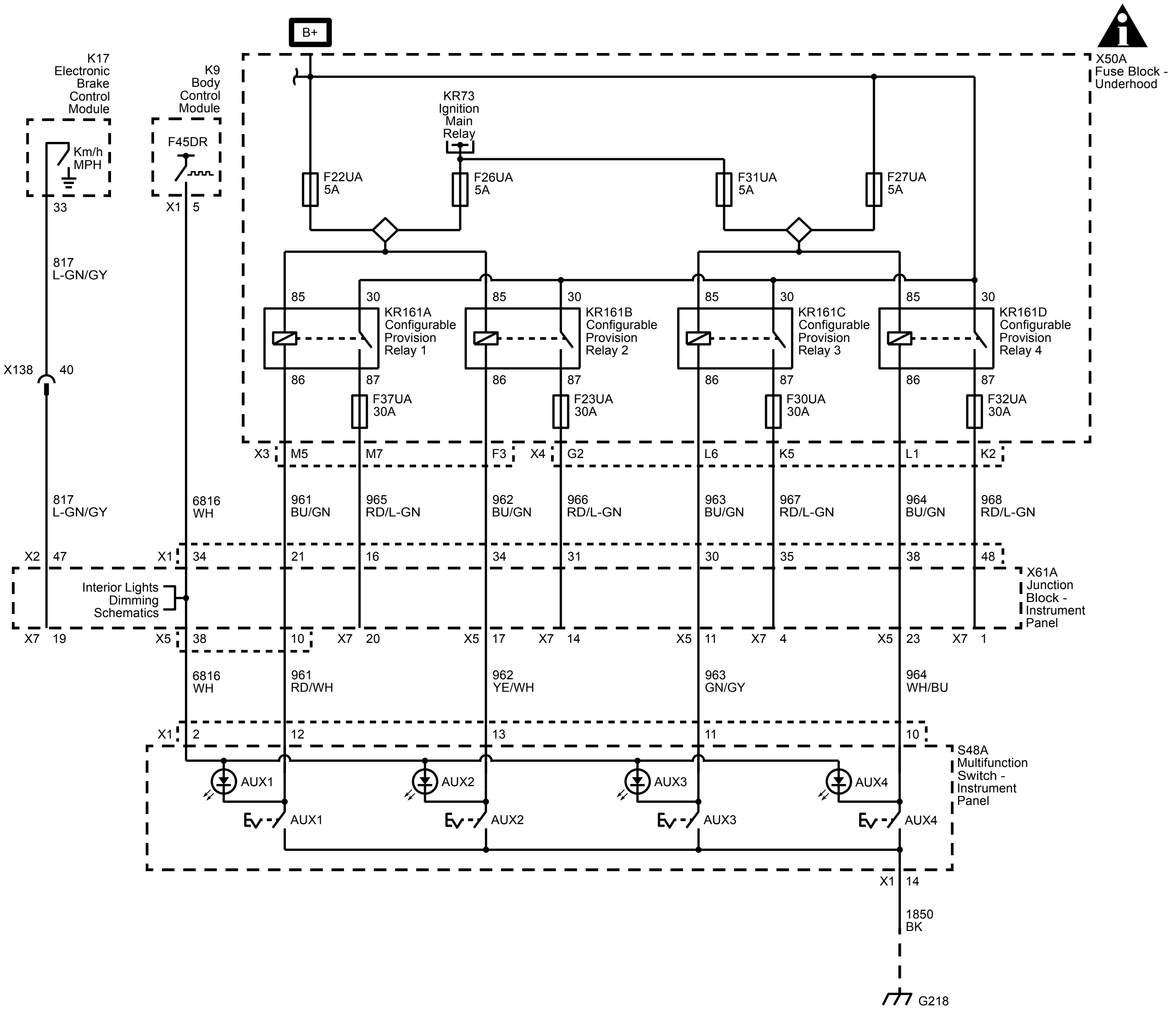

A11
Radio
P17
Info
Display
Module
A26
HVAC
Controls
K73
Telematics
Communication
Interface
Control Module
A33
Media Disc
Player
P22A
Video
Display -
2nd Row
K74
Human
Machine
Interface
Control
Module
X92
USB
Receptacle
X82
Audio/
Video
Input
Adapter
X83
Auxiliary
Audio
Input
T3
Audio
Amplifier
B87
Rearview
Camera
X3 16 (-IOB)
X1 11 (IOB)
X2 10
X1 9
10
10
X1 7
X1 7 (U42)
8 (TG5)
X2 8
X1 8
X1 4
X1 1
X1 4
X1 8
2550 BK
2550 BK/WH
U42
X305 2
X300 5
IOB
-IOB
J2XX
E29
-E29
J265
UE1
TG5/U42
U42
IO4/IO5/IO6
D07
X9XX 7
X4 50
47
45
48
49
46
X5 31
X4 44
X61A
Junction
Block -
Instrument
Panel
X1 50
X314 6
X138 29
-D07
UQA/UQG
UVC
J350
X207 1
E29
D07-E29/UQA/UQG/UVC
UQA/UQG/UVC/(-D07)
G325

G400 (2500/3500)

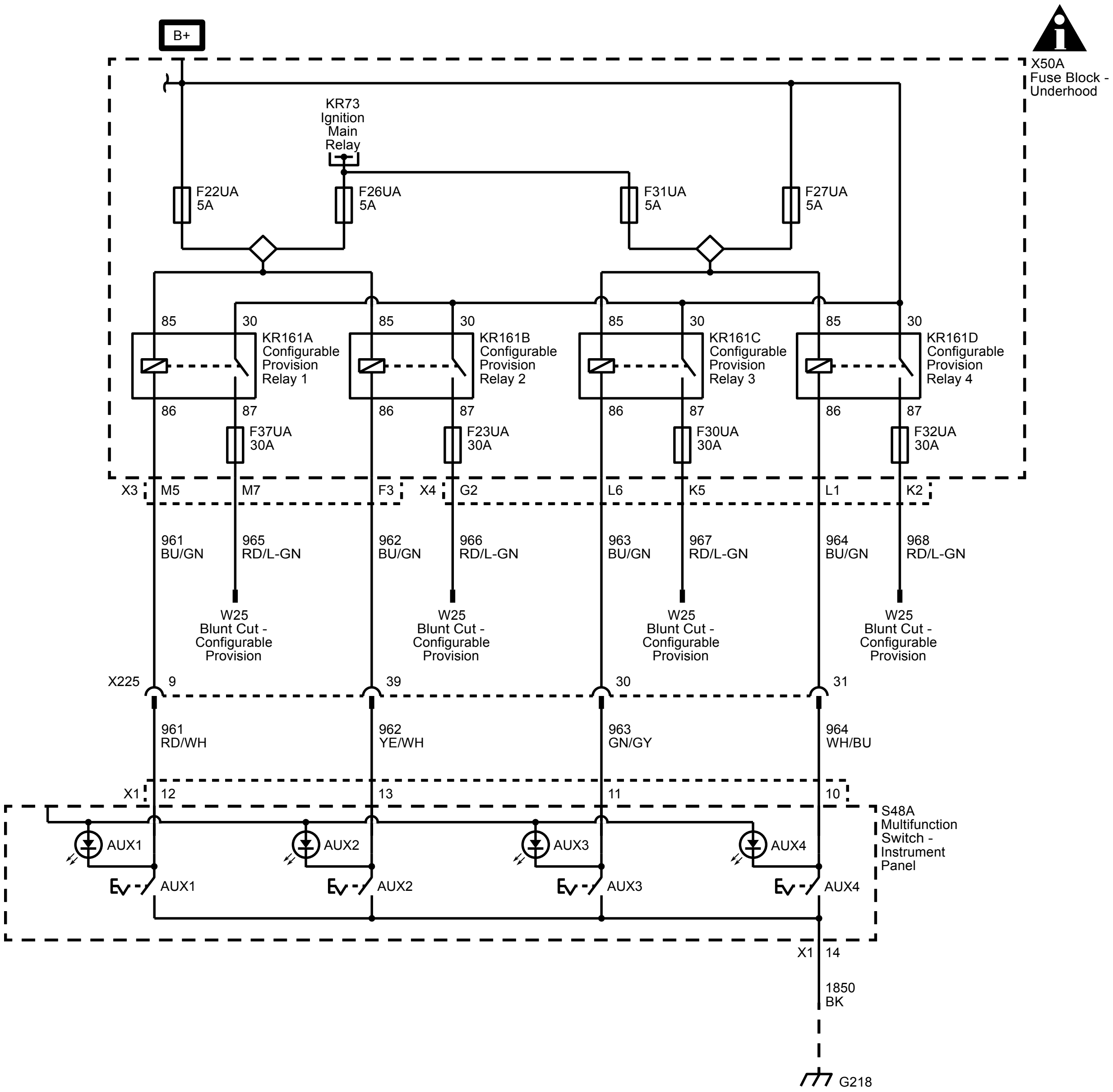

E42L Tail Lamp Assembly - Left
E5A Backup Lamp - Left
E5S Tail/Stop and Turn Signal Lamp - Left
E5A Backup Lamp - Left
A90 Logic
1
ZW9
-ZW9
1750 BK
1
E2A Marker Lamp - Endgate
E3RF Rear Fender Clearance Lamp - Right Front
E3RR Rear Fender Clearance Lamp - Right Rear
E3LF Rear Fender Clearance Lamp - Left Front
E3LR Rear Fender Clearance Lamp - Left Rear
2
2
2
2
2
1750 BK
1750 BK
1750 BK
1750 BK
1750 BK
J417
J416
1750 BK
1750 BK
P3 Backup Alarm
22 WH
B
E7 License Plate Lamp
E7L License Plate Lamp - Left
E7R License Plate Lamp - Right
B
B
B
9J4
-9J4
1750 BK
E33L Cargo Lamp - Left
E33R Cargo Lamp - Right
2
2
1750 BK
1750 BK
J499
UF2/S0Y
1750 BK
W1 Blunt Cut - Camper Trailer Provision
X88 Trailer Connector
B
K133 Trailer Brake Power Control Module
B136 Exhaust Particulate Matter Sensor
X417
B
X416
B
1750 BK
1750 BK
1750 BK
1750 BK
K38 Chassis Control Module
22 WH
8S3
22 WH
22 WH
J907
9
1
X9XX
15
14
13
16
X410
6
13
X4XX
6
22 WH
X950
B
UY2
-UY2
1750 BK
1750 BK
1750 BK
J451
22 WH
1750 BK
1750 BK
1750 BK
1750 BK
1750 BK
1750 BK
1750 BK
1750 BK
Z82
JL1
LML
-SRW
-SRW
E63
E63-9J4
JL1
-JL1
J450
1750 BK
G400

Upfitter Provision Schematics

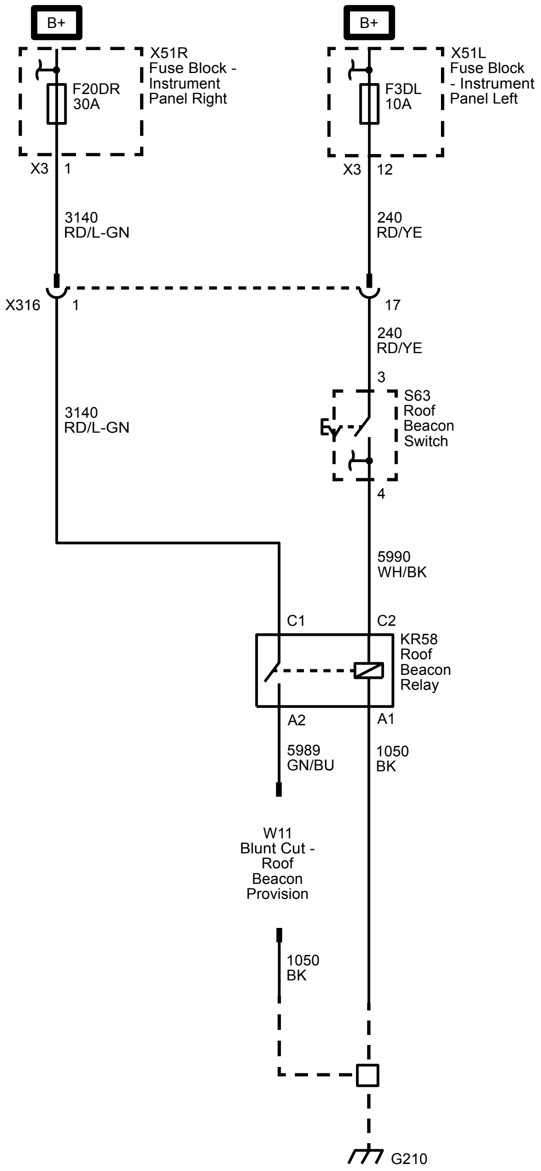
Upfitter Provisions (except E29)

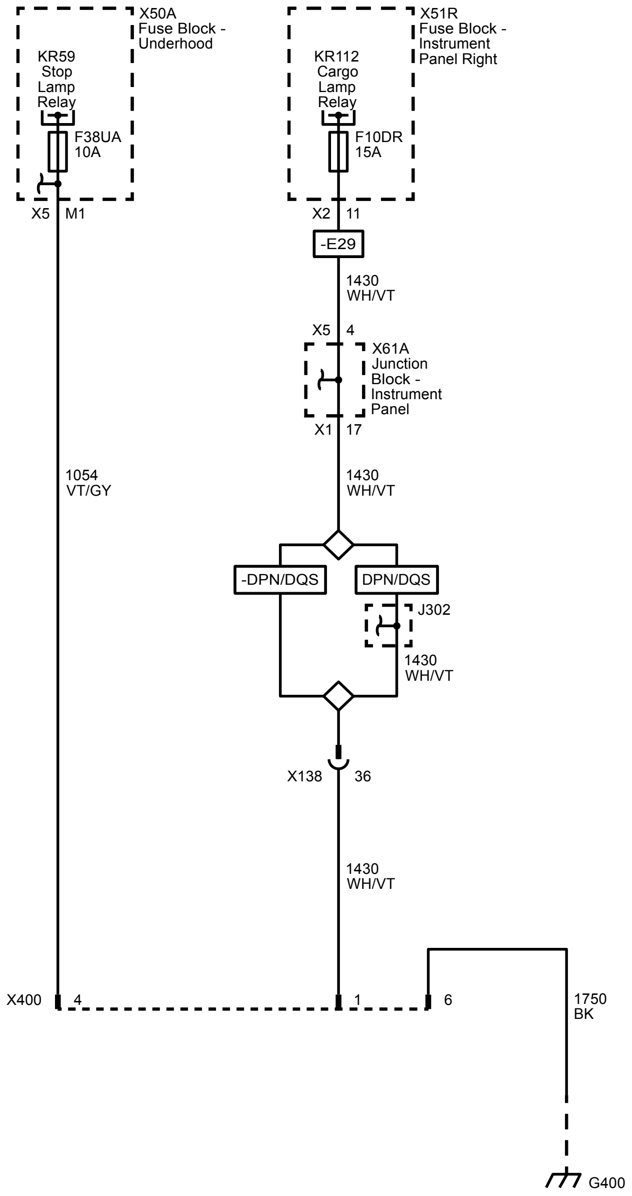

B+
X50A Fuse Block - Underhood
K17 Electronic Brake Control Module
Km/h MPH
33
K9 Body Control Module
F45DR
X1 5
KR73 Ignition Main Relay
F22UA 5A
F26UA 5A
F31UA 5A
F27UA 5A
85
30
KR161A Configurable Provision Relay 1
KR161B Configurable Provision Relay 2
KR161C Configurable Provision Relay 3
KR161D Configurable Provision Relay 4
86
87
F37UA 30A
F23UA 30A
F30UA 30A
F32UA 30A
X3 M5
M7
F3
X4 G2
L6
K5
L1
K2
817 L-GN/GY
X138 40
6816 WH
961 BU/GN
965 RD/L-GN
962 BU/GN
966 RD/L-GN
963 BU/GN
967 RD/L-GN
964 BU/GN
968 RD/L-GN
X2 47
X1 34
21
16
34
31
30
35
38
48
X61A Junction Block - Instrument Panel
Interior Lights Dimming Schematics
X7 19
X5 38
10
X7 20
X5 17
X7 14
X5 11
X7 4
X5 23
X7 1
961 RD/WH
962 YE/WH
963 GN/GY
964 WH/BU
X1 2
12
13
11
10
S48A Multifunction Switch - Instrument Panel
AUX1
AUX2
AUX3
AUX4
X1 14
1850 BK
G218

Upfitter Provisions (E29)


B+
X50A
Fuse Block -
Underhood
KR73
Ignition
Main
Relay
F22UA
5A
F26UA
5A
F31UA
5A
F27UA
5A
85
30
KR161A
Configurable
Provision
Relay 1
86
87
85
30
KR161B
Configurable
Provision
Relay 2
86
87
85
30
KR161C
Configurable
Provision
Relay 3
86
87
85
30
KR161D
Configurable
Provision
Relay 4
86
87
F37UA
30A
F23UA
30A
F30UA
30A
F32UA
30A
X3
M5
M7
F3
X4
G2
L6
K5
L1
K2
961
BU/GN
965
RD/L-GN
962
BU/GN
966
RD/L-GN
963
BU/GN
967
RD/L-GN
964
BU/GN
968
RD/L-GN
W25
Blunt Cut -
Configurable
Provision
W25
Blunt Cut -
Configurable
Provision
W25
Blunt Cut -
Configurable
Provision
W25
Blunt Cut -
Configurable
Provision
X225
9
39
30
31
961
RD/WH
962
YE/WH
963
GN/GY
964
WH/BU
X1
12
13
11
10
S48A
Multifunction
Switch -
Instrument
Panel
AUX1
AUX2
AUX3
AUX4
AUX1
AUX2
AUX3
AUX4
X1
14
1850
BK
G218

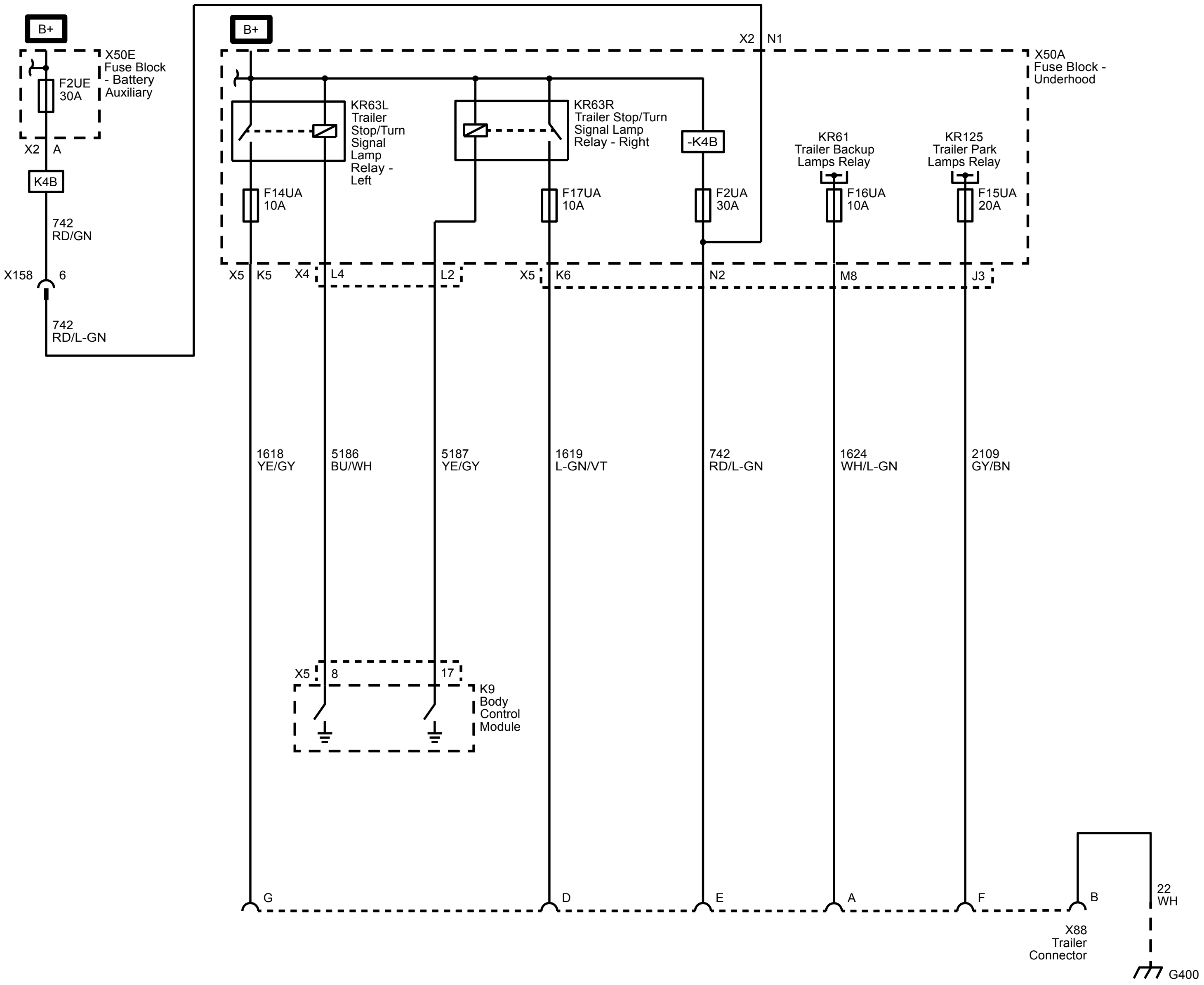
Roof Beacon Provisions (TRW)


B+
X51R
Fuse Block - Instrument Panel Right
F20DR
30A
X3
1
3140
RD/L-GN
B+
X51L
Fuse Block - Instrument Panel Left
F3DL
10A
X3
12
240
RD/YE
X316
1
17
240
RD/YE
3
S63
Roof Beacon Switch
4
3140
RD/L-GN
5990
WH/BK
C1
C2
KR58
Roof Beacon Relay
A2
A1
5989
GN/BU
1050
BK
W11
Blunt Cut - Roof Beacon Provision
1050
BK
G210

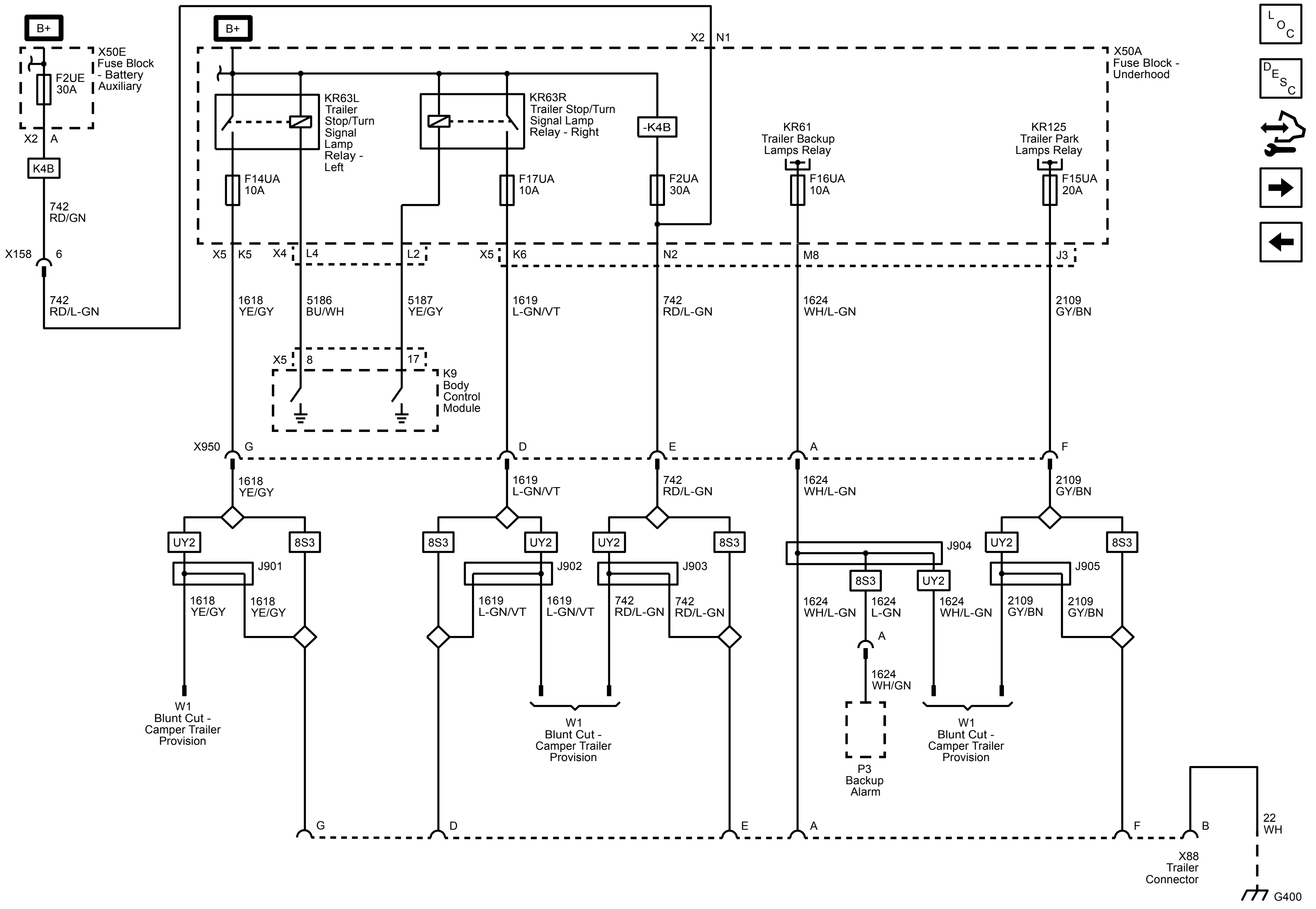

X50A
Fuse Block -
Underhood
KR59
Stop
Lamp
Relay
F38UA
10A
X5
M1
1054
VT/GY
X51R
Fuse Block -
Instrument
Panel Right
KR112
Cargo
Lamp
Relay
F10DR
15A
X2
11
-E29
1430
WH/VT
X5
4
X61A
Junction
Block -
Instrument
Panel
X1
17
1430
WH/VT
-DPN/DQS
DPN/DQS
J302
1430
WH/VT
X138
36
1430
WH/VT
X400
4
1
6
1750
BK
G400

Trailer Connector/Provision Schematics

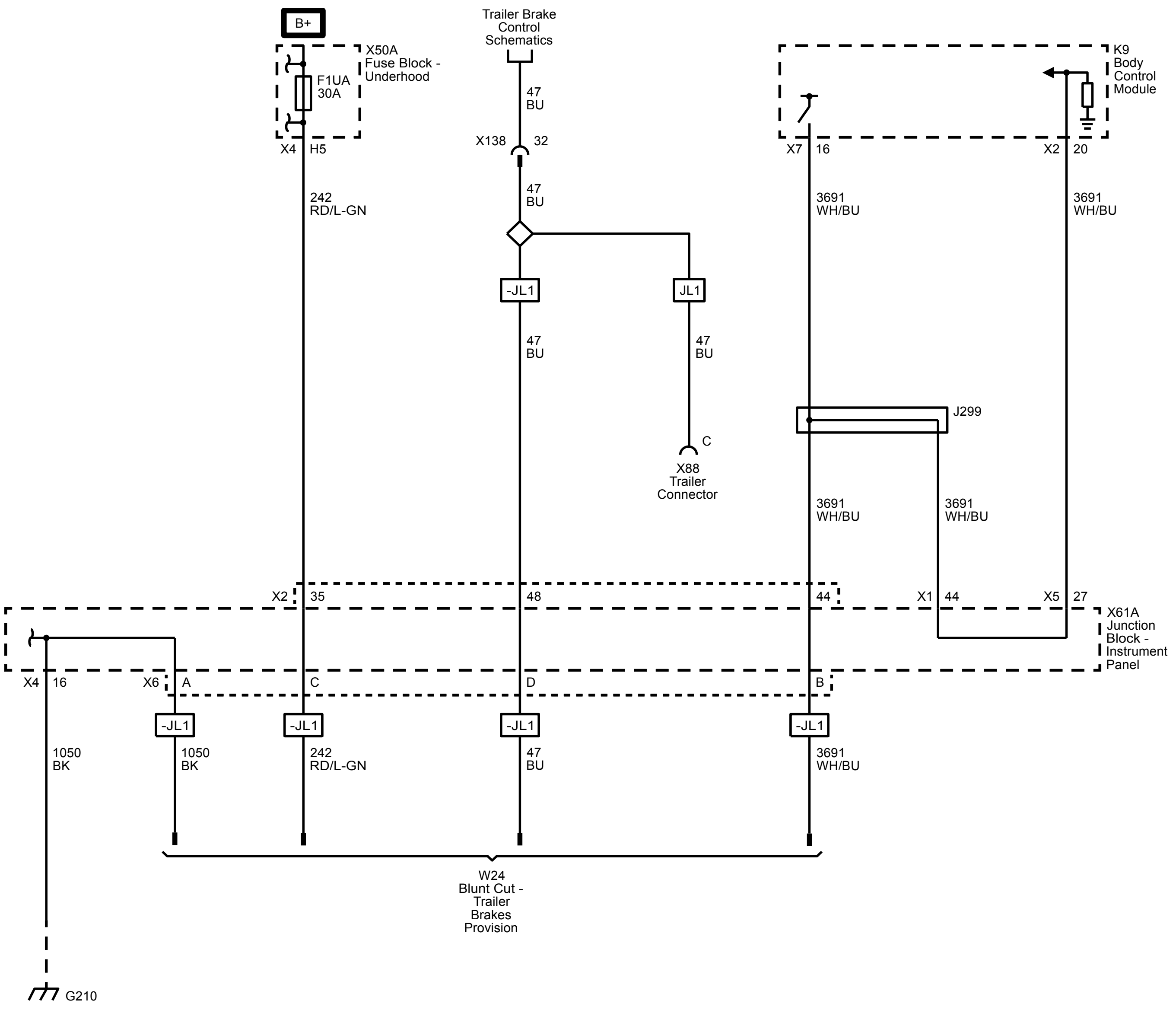
Trailer Connector Pins: A, B, D, E, F, G (Z82 without 8S3 or UY2)


B+
X50E
Fuse Block
- Battery
Auxiliary
F2UE
30A
X2
A
K4B
742
RD/GN
X158
6
742
RD/L-GN
B+
X2
N1
X50A
Fuse Block -
Underhood
KR63L
Trailer
Stop/Turn
Signal
Lamp
Relay -
Left
KR63R
Trailer Stop/Turn
Signal Lamp
Relay - Right
-K4B
KR61
Trailer Backup
Lamps Relay
KR125
Trailer Park
Lamps Relay
F14UA
10A
F17UA
10A
F2UA
30A
F16UA
10A
F15UA
20A
X5
K5
X4
L4
L2
X5
K6
N2
M8
J3
1618
YE/GY
5186
BU/WH
5187
YE/GY
1619
L-GN/VT
742
RD/L-GN
1624
WH/L-GN
2109
GY/BN
X5
8
17
K9
Body
Control
Module
G
D
E
A
F
B
22
WH
X88
Trailer
Connector
G400

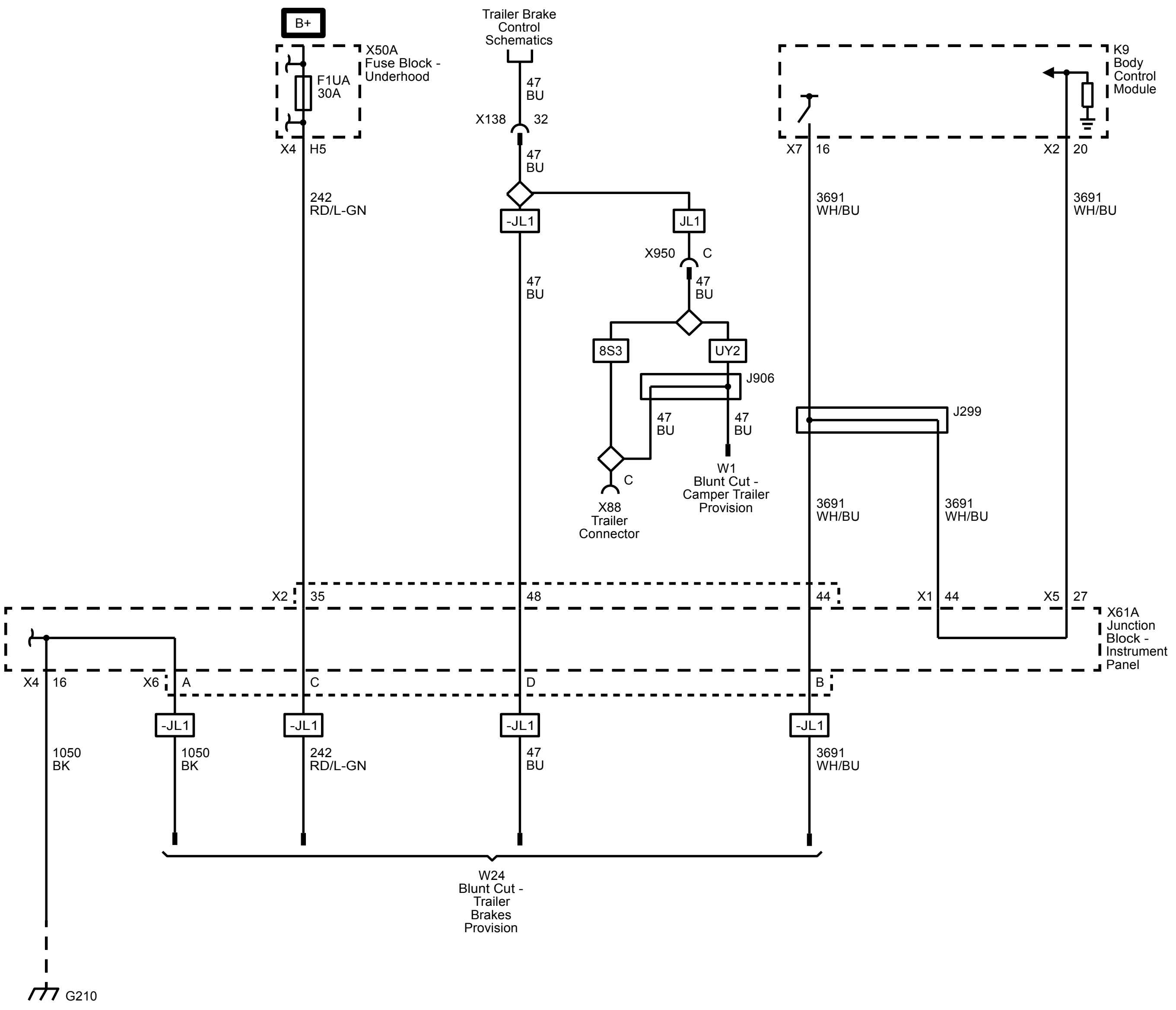
Trailer Connector Pins: A, B, D, E, F, G (Z82 with 8S3 or UY2)


B+
X50E
Fuse Block - Battery Auxiliary
F2UE
30A
X2
A
K4B
742
RD/GN
X158
6
742
RD/L-GN
B+
X2
N1
X50A
Fuse Block - Underhood
KR63L
Trailer Stop/Turn Signal Lamp Relay - Left
KR63R
Trailer Stop/Turn Signal Lamp Relay - Right
-K4B
KR61
Trailer Backup Lamps Relay
KR125
Trailer Park Lamps Relay
F14UA
10A
F17UA
10A
F2UA
30A
F16UA
10A
F15UA
20A
X5
K5
X4
L4
L2
X5
K6
N2
M8
J3
1618
YE/GY
5186
BU/WH
5187
YE/GY
1619
L-GN/VT
742
RD/L-GN
1624
WH/L-GN
2109
GY/BN
X5
8
17
K9
Body Control Module
X950
G
D
E
A
F
1618
YE/GY
1619
L-GN/VT
742
RD/L-GN
1624
WH/L-GN
2109
GY/BN
UY2
8S3
J901
8S3
UY2
J902
UY2
8S3
J903
J904
8S3
UY2
UY2
8S3
J905
1618
YE/GY
1618
YE/GY
1619
L-GN/VT
1619
L-GN/VT
742
RD/L-GN
742
RD/L-GN
1624
WH/L-GN
1624
L-GN
1624
WH/L-GN
2109
GY/BN
2109
GY/BN
A
1624
WH/GN
W1
Blunt Cut - Camper Trailer Provision
W1
Blunt Cut - Camper Trailer Provision
P3
Backup Alarm
W1
Blunt Cut - Camper Trailer Provision
G
D
E
A
F
B
22
WH
X88
Trailer Connector
G400

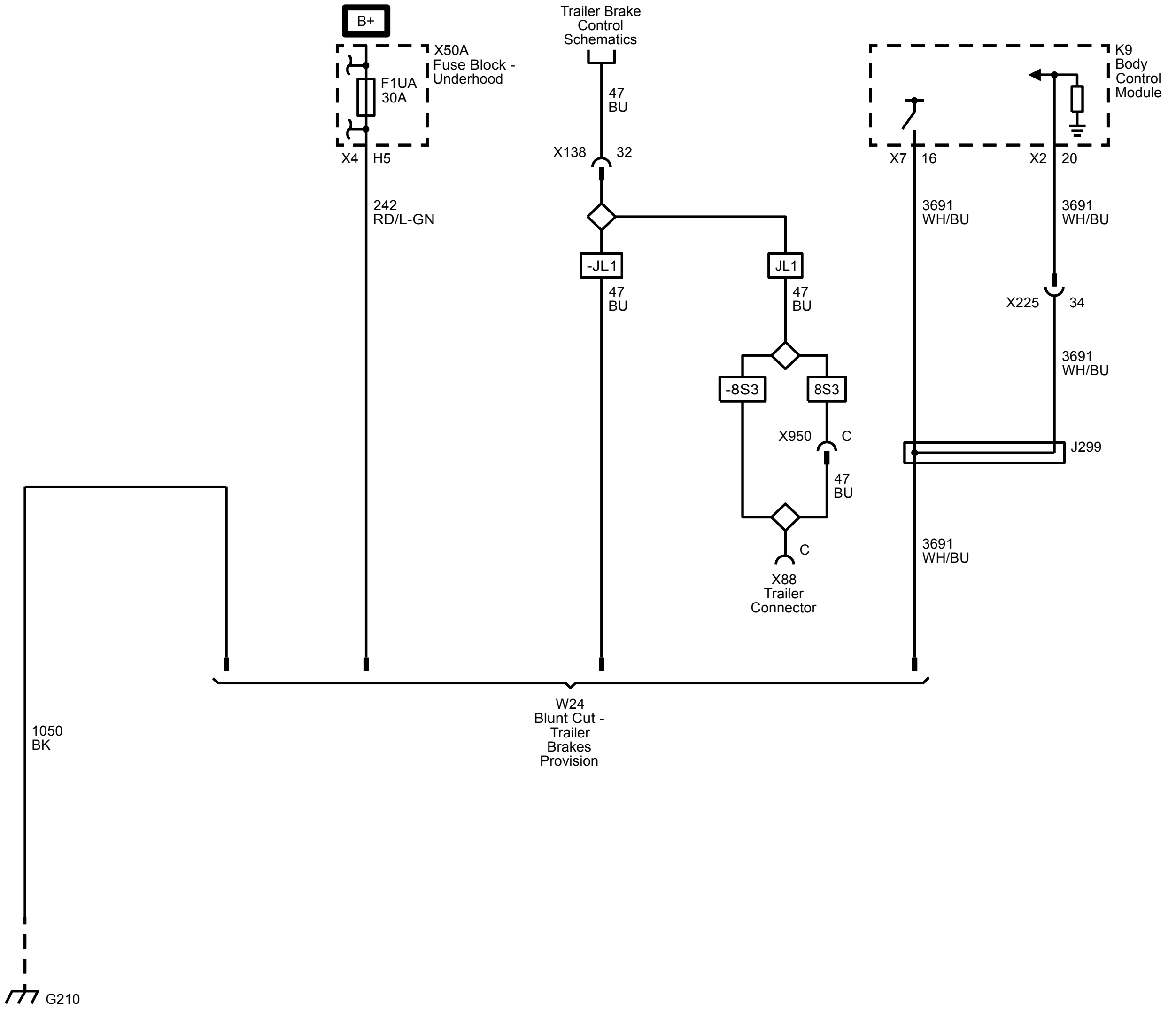
Trailer Connector Pin: C (Z82 without 8S3, E29 or UY2)


B+
X50A
Fuse Block -
Underhood
F1UA
30A
X4 H5
242
RD/L-GN
Trailer Brake
Control
Schematics
47
BU
X138 32
-JL1
JL1
C
X88
Trailer
Connector
K9
Body
Control
Module
X7 16
X2 20
3691
WH/BU
J299
X2 35
48
44
X1 44
X5 27
X61A
Junction
Block -
Instrument
Panel
X4 16
X6 A
C
D
B
1050
BK
W24
Blunt Cut -
Trailer
Brakes
Provision
G210

Trailer Connector Pin: C (Z82 with 8S3 or UY2 except E29)


B+
X50A
Fuse Block - Underhood
F1UA
30A
X4
H5
242
RD/L-GN
Trailer Brake Control Schematics
47
BU
X138
32
47
BU
-JL1
JL1
X950
C
47
BU
47
BU
8S3
UY2
J906
47
BU
47
BU
C
X88
Trailer Connector
W1
Blunt Cut - Camper Trailer Provision
K9
Body Control Module
X7
16
X2
20
3691
WH/BU
3691
WH/BU
J299
3691
WH/BU
3691
WH/BU
X2
35
48
44
X1
44
X5
27
X61A
Junction Block - Instrument Panel
X4
16
X6
A
C
D
B
-JL1
-JL1
-JL1
-JL1
1050
BK
1050
BK
242
RD/L-GN
47
BU
3691
WH/BU
W24
Blunt Cut - Trailer Brakes Provision
G210

Trailer Connector Pin: C (Z82 with E29)



B+
X50A
Fuse Block - Underhood
F1UA
30A
X4
H5
242
RD/L-GN
Trailer Brake Control Schematics
47
BU
X138
32
-JL1
JL1
47
BU
47
BU
-8S3
8S3
X950
C
47
BU
C
X88
Trailer Connector
K9
Body Control Module
X7
16
X2
20
3691
WH/BU
3691
WH/BU
X225
34
3691
WH/BU
J299
3691
WH/BU
1050
BK
W24
Blunt Cut - Trailer Brakes Provision
G210

Component Locator

Master Electrical Component List

Master Electrical Component List

Code	Name	Option	Location	Locator View	Connector End View
A3L	Sunshade – Left	DH6	In the passenger compartment, at the front of the headliner	—	—
A3R	Sunshade – Right	DH6	In the passenger compartment, at the front of the headliner	—	—
A4	Hybrid/EV Battery Pack	HP5	Under the center console	—	—
A6C	Fuel Pump and Level Sensor Assembly – Primary	2500 or 3500	Under the vehicle, mounted in the front fuel tank	—	*A6C Fuel Pump and Level Sensor Assembly – Primary (2500 or 3500)*
A6D	Fuel Pump and Level Sensor Assembly – Secondary	N2N	Under the vehicle, mounted in the rear fuel tank	—	*A6D Fuel Pump and Level Sensor Assembly - Secondary*
A7	Fuel Pump and Level Sensor Assembly	1500	Under the vehicle, mounted in the fuel tank	*Rear Chassis Components (except Chassis Cab or LML)*	*A7 Fuel Pump and Level Sensor Assembly*
A9A	Outside Rearview Mirror – Driver	—	Outside the vehicle, at the front of the driver door	—	—
A9B	Outside Rearview Mirror – Passenger	—	Outside the vehicle, at the front of the passenger door	—	—
A10	Inside Rearview Mirror	DD8 or UE1	In the passenger compartment, at the top center of the windshield	*Headliner Components*	*A10 Inside Rearview Mirror*
A11	Radio	—	In the passenger compartment, in the center of the Instrument Panel behind the Info Display Module	*Rear of Instrument Panel Components*	• *A11 Radio X1 (IOB)* • *A11 Radio X1 (-IOB)* • *A11 Radio X2 (IOB)* • *A11 Radio X2 (-IOB)* • *A11 Radio X3* • *A11 Radio X4* • *A11 Radio X6 (U2K or U2M)* • *A11 Radio X7 (IO3)* • *A11 Radio X8 (IO3)*
A14D	Seat Lumbar Support Pump - Driver	GAJ or Y91	In the passenger compartment, in the seat back	*Back of Driver Seat Components*	*A14D Seat Lumbar Support Pump - Driver*
A14P	Seat Lumbar Support Pump - Passenger	GAJ or Y91	In the passenger compartment, in the seat back	*Back of Passenger Seat Components*	*A14P Seat Lumbar Support Pump - Passenger*
A15	Starter/Generator	HP5	In the engine compartment, right of center, mounted to lower front of engine block at right	—	*A15 Starter/Generator*
A16	Transfer Case Motor	NQF or NQH	Under the vehicle, mounted to the rear of the transmission	*Left Side of Transmission Components (MW7)*	*A16 Transfer Case Motor*
A22	Radio Controls	—	In the passenger compartment, at the center of the Instrument Panel, part of the Info Display Module	—	*A22 Radio Controls*

A23D	Door Latch Assembly – Driver	—	Outside the vehicle, at the rear center of the driver door	*Driver Door Components*	*A23D Door Latch Assembly - Driver*
A23E	Door Latch Assembly - Endgate	A91	In the rear of the vehicle, inside the lower middle of the endgate	—	*A23E Door Latch Assembly - Endgate*
A23LR	Door Latch Assembly – Left Rear	Extended Cab or Crew Cab	Outside the vehicle, at the rear center of the left rear door	*Left Rear Door Components*	*A23LR Door Latch Assembly - Left Rear*
A23P	Door Latch Assembly – Passenger	—	Outside the vehicle, at the rear center of the passenger door	*Passenger Door Components*	*A23P Door Latch Assembly - Passenger*
A23RR	Door Latch Assembly – Right Rear	Extended Cab or Crew Cab	Outside the vehicle, at the rear center of the right rear door	*Right Rear Door Components*	*A23RR Door Latch Assembly - Right Rear*
A26	HVAC Controls	—	In the passenger compartment, at the middle of the instrument panel, part of the info display module	—	*A26 HVAC Controls*
A33	Media Disc Player	TG5/U42/D07	In the passenger compartment, at the center of the Instrument Panel, behind the Info Display Module	*Rear of Instrument Panel Components*	• *A33 Media Disc Player X1 (D07)* • *A33 Media Disc Player X1 (TG5)* • *A33 Media Disc Player X1 (U42)* • *A33 Media Disc Player X2 (D07)* • *A33 Media Disc Player X2 (U42)* • *A33 Media Disc Player X3 (U42)* • *A33 Media Disc Player X4 (U42)* • *A33 Media Disc Player X5 (U42)*
A39	Reductant Fluid Reservoir Assembly	LML	Under the vehicle, mounted to the outboard side of the frame, below the passenger side of the cab	—	—
B1	A/C Refrigerant Pressure Sensor	C67 or CJ2	In the engine compartment, near the left front corner of the engine	*Right Side of Engine Components (L96)*	*B1 A/C Refrigerant Pressure Sensor*
B5LF	Wheel Speed Sensor – Left Front	—	Outside the vehicle, part of the left front wheel hub assembly	*Front Chassis Components (1500)*	*B5LF Wheel Speed Sensor - Left Front*
B5LR	Wheel Speed Sensor – Left Rear	—	Outside the vehicle, mounted to the outboard end of the left axle tube	• *Chassis Components (2500/3500)* • *Front Axle Components* • *Rear Chassis Components (except Chassis Cab or LML)*	*B5LR Wheel Speed Sensor - Left Rear*
B5RF	Wheel Speed Sensor – Right Front	—	Outside the vehicle, part of the right front wheel hub assembly	*Front Chassis Components (1500)*	*B5RF Wheel Speed Sensor - Right Front*
B5RR	Wheel Speed Sensor – Right Rear	—	Outside the vehicle, mounted to the outboard end of the right axle tube	• *Front Axle Components* • *Chassis Components (2500/3500)* • *Rear Chassis Components (except Chassis Cab or LML)*	*B5RR Wheel Speed Sensor - Right Rear*
B7D	Air Temperature Sensor – Duct Left Lower	CJ2	In the passenger compartment, behind the instrument panel, on the left side of the HVAC module	*Front of HVAC Assembly Components*	—
B7E	Air Temperature Sensor – Duct Right Lower	CJ2	In the passenger compartment, behind the instrument panel, on the right side of the HVAC module	*Front of HVAC Assembly Components*	—

B7H	Air Temperature Sensor – Duct Left Upper	CJ2	In the passenger compartment, behind the instrument panel, on the upper left side of the HVAC module	*Back of HVAC Assembly Components*	—
B7J	Air Temperature Sensor – Duct Right Upper	CJ2	In the passenger compartment, behind the instrument panel, on the upper right side of the HVAC module	*Back of HVAC Assembly Components*	—
B9	Ambient Air Temperature Sensor	—	Outside the vehicle, behind the right side of the grill	• *Front of Vehicle (Chevrolet) Components* • *Front of Vehicle (GMC) Components*	*B9 Ambient Air Temperature Sensor*
B9D	Ambient Air Temperature Sensor – Mirror	LML	Outside the vehicle, at the bottom of the passenger outside rearview mirror	—	—
B10B	Ambient Light/Sunload Sensor	—	In the passenger compartment, at the top middle of the instrument panel	*Front of Instrument Panel Components*	*B10B Ambient Light/Sunload Sensor*
B12A	Transmission Fluid Pressure Switch	MW7, MYC or MYD	Under the vehicle, inside the transmission assembly	—	—
B13	Transmission Fluid Temperature Sensor	M5U, MW7, MYC or MYD	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	—
B14A	Transmission Output Shaft Speed Sensor	—	Under the vehicle, mounted in the transmission tailshaft housing	• *Automatic Transmission Case Components (M5U)* • *Automatic Transmission Internal Components (MYC or MYD)* • *Left Side of Transmission Components (MW7)*	—
B14B	Transmission Turbine Speed Sensor	MW7	Under the vehicle, inside the transmission assembly	*Left Side of Transmission Components (MW7)*	*B14B Transmission Turbine Speed Sensor*
B14C	Transmission Input Shaft Speed Sensor	M5U, MYC or MYD	Under the vehicle, inside the transmission assembly	*Automatic Transmission Case Components (M5U)*	—
B14D	Transmission Intermediate Shaft Speed Sensor	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Case Components (M5U)*	—
B15	Transmission Internal Mode Switch	M5U, MW7, MYC or MYD	Under the vehicle, inside the transmission assembly	• *Automatic Transmission Case Components (M5U)* • *Automatic Transmission Internal Components (MYC or MYD)*	*B15 Transmission Internal Mode Switch (M5U)*
B16	Backup Lamp Switch	M2P, MQ7 or MXW	Under the vehicle, mounted to the transmission assembly	• *Manual Transmission Components (MQ7)* • *Manual Transmission Components (MXW)*	• *B16 Backup Lamp Switch (M2P or MXW)* • *B16 Backup Lamp Switch (MQ7)*
B18	Battery Current Sensor	—	In the engine compartment, left rear of battery, on the negative battery cable	—	*B18 Battery Current Sensor*
B19B	Brake Booster Vacuum Sensor	—	At the rear of the engine compartment, left of the brake fluid reservoir, on brake booster vacuum check valve	*Left Side of Engine Compartment Components (except LML)*	*B19B Brake Booster Vacuum Sensor*
B20	Brake Fluid Level Switch	—	In the engine compartment, mounted in the brake fluid reservoir	*Left Side of Engine Compartment Components (except LML)*	*B20 Brake Fluid Level Switch*

B22	Brake Pedal Position Sensor	—	In the passenger compartment, in the driver side footwell, under the instrument panel	—	*B22 Brake Pedal Position Sensor*
B23	Camshaft Position Sensor	—	In the engine compartment, at the front of the engine, mounted the timing chain cover	*Right Side of Engine Components (LML)*	• *B23 Camshaft Position Sensor (L96)* • *B23 Camshaft Position Sensor (LML)*
B24	Cellular Phone Microphone	IO4, IO5, IO6 or UE1	In the passenger compartment, in the left side of the overhead console	*Headliner Components*	*B24 Cellular Phone Microphone*
B25B	Clutch Pedal Position Sensor	M2P, MQ7 or MXW	In the passenger compartment, in the driver side footwell, under the instrument panel	—	*B25B Clutch Pedal Position Sensor*
B26	Crankshaft Position Sensor	—	In the engine compartment, mounted in the side of the engine block	• *Right Side of Engine Components (L96)* • *Right Side of Engine Components (LML)*	• *B26 Crankshaft Position Sensor (1500)* • *B26 Crankshaft Position Sensor (L96/LC8)* • *B26 Crankshaft Position Sensor (LML)*
B33	Engine Coolant Level Switch	LML	In the engine compartment, in the engine coolant reservoir	*Left Side of Engine Components (LML)*	*B33 Engine Coolant Level Switch*
B34	Engine Coolant Temperature Sensor	LML	In the engine compartment, top left front of the engine, right of the water outlet housing	*Top of the Engine Components (LML)*	*B34 Engine Coolant Temperature Sensor (LML)*
B34	Engine Coolant Temperature Sensor	1500	In the engine compartment, top left front of water pump, left of coolant outlet hose	—	*B34 Engine Coolant Temperature Sensor (1500)*
B34	Engine Coolant Temperature Sensor	L96/LC8	In the engine compartment, left front side of engine cylinder head	*Left Side of Engine Components (L96)*	*B34 Engine Coolant Temperature Sensor (L96/LC8)*
B35	Engine Oil Level Switch	1500 or LML	In the engine compartment, bottom left of the engine oil pan	*Left Side of Engine Components (LML)*	• *B35 Engine Oil Level Switch (1500)* • *B35 Engine Oil Level Switch (LML)*
B37B	Engine Oil Pressure Sensor	—	In the engine compartment, at the top rear of the engine block, between the cylinder heads	• *Left Side of Engine Components (L96)* • *Left Side of Engine Components (LML)*	• *B37B Engine Oil Pressure Sensor (1500)* • *B37B Engine Oil Pressure Sensor (L96/LC8)* • *B37B Engine Oil Pressure Sensor (LML)*
B39	A/C Evaporator Temperature Sensor	C67 or CJ2	In the passenger compartment, behind the instrument panel, mounted in the HVAC housing	*Back of HVAC Assembly Components*	—
B46	Fuel Level Sensor	1500	Under the vehicle, inside the fuel tank, part of the fuel pump and level sensor assembly	—	—
B46A	Fuel Level Sensor – Primary	2500 or 3500	Under the vehicle, inside the primary fuel tank, part of the fuel pump and level sensor assembly	—	—
B46B	Fuel Level Sensor – Secondary	N2N	Under the vehicle, inside the secondary fuel tank, part of the fuel pump and level sensor assembly	—	—
B47	Fuel Pressure Sensor	1500	On the vehicle underbody, on the fuel line, near the transmission crossmember mount	*Front Chassis Components (1500)*	*B47 Fuel Pressure Sensor*

B47B	Fuel Rail Pressure Sensor	1500 or LML	In the engine compartment, at the top of the engine, mounted to the fuel rail	*Left Side of Engine Components (LML)*	• *B47B Fuel Rail Pressure Sensor* • *B47B Fuel Rail Pressure Sensor (1500)*
B48	Fuel Temperature Sensor	LML	In the engine compartment, top of the engine, mounted to the left side of the fuel injection pump	*Top of the Engine Components (LML)*	*B48 Fuel Temperature Sensor*
B52C	Heated Oxygen Sensor – Bank 1 Sensor 1	except LML	Under the vehicle, mounted in the bank 1 exhaust, upstream of the catalytic converter	*Exhaust Components (L96)*	• *B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L96 with ZW9)* • *B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L96 without ZW9 or LC8)* • *B52C Heated Oxygen Sensor - Bank 1 Sensor 1*
B52D	Heated Oxygen Sensor – Bank 1 Sensor 2	except LML	Under the vehicle, mounted in the bank 1 exhaust, downstream of the catalytic converter	• *Exhaust Components (L96)* • *Front Chassis Components (1500)*	• *B52D Heated Oxygen Sensor - Bank 1 Sensor 2* • *B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L96 with ZW9)* • *B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L96/LC8 without ZW9)*
B52E	Heated Oxygen Sensor – Bank 2 Sensor 1	except LML	Under the vehicle, mounted in the bank 2 exhaust, upstream of the catalytic converter	*Exhaust Components (L96)*	• *B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L96 with ZW9)* • *B52E Heated Oxygen Sensor - Bank 2 Sensor 1* • *B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L96/LC8 without ZW9)*
B52F	Heated Oxygen Sensor – Bank 2 Sensor 2	except LML	Under the vehicle, mounted in the bank 2 exhaust, downstream of the catalytic converter	*Exhaust Components (L96)*	• *B52F Heated Oxygen Sensor - Bank 2 Sensor 2* • *B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L96 or LC8)*
B55	Hood Ajar Switch	BTV/PTO/UTJ/HP5	Outside the vehicle, at the front center of the hood, part of the hood latch assembly	*Right Side of Engine Compartment Components*	*B55 Hood Ajar Switch*
B59	Front Impact Sensor	2500/3500	In the engine compartment, at the center of the top of the radiator core support	—	*B59R Front Impact Sensor - Right*
B59L	Front Impact Sensor – Left	1500	In the engine compartment, at the left side of the top of the radiator core support	—	*B59L Front Impact Sensor - Left*
B59R	Front Impact Sensor – Right	1500	In the engine compartment, at the right side of the top of the radiator core support	—	*B59R Front Impact Sensor - Right*
B60	Passenger Presence Sensor	AL0	In the passenger compartment, in the passenger seat cushion	—	*B60 Passenger Presence Sensor*
B61P	Seat Belt Tension Sensor – Passenger	AL0	In the passenger compartment, at the base of the B-pillar, part of the passenger seat belt retractor pretensioner	—	*B61P Seat Belt Tension Sensor - Passenger*
B62D	Seat Position Sensor – Driver	1500	In the passenger compartment, mounted to the outboard track of the driver seat	*Bottom of Driver Seat Components*	*B62D Seat Position Sensor - Driver*

B62P	Seat Position Sensor – Passenger	1500	In the passenger compartment, mounted to the outboard track of the passenger seat	• *Bottom of Passenger Seat Components (without GAJ or Y91)* • *Bottom of Passenger Seat Components (GAJ or Y91)*	*B62P Seat Position Sensor - Passenger*
B63LF	Side Impact Sensor – Left Front	AY0	At the left front of the passenger compartment, mounted inside the left front door, at the bottom	*Driver Door Components*	*B63LF Side Impact Sensor - Left Front*
B63LR	Side Impact Sensor – Left Rear	4 Door with AY0	At the left rear of the passenger compartment, mounted inside the left rear door, at the bottom	*Left Rear Door Components*	*B63LR Side Impact Sensor - Left Rear*
B63RF	Side Impact Sensor – Right Front	4 Door with AY0	At the right front of the passenger compartment, mounted inside the right front door, at the bottom	*Passenger Door Components*	*B63RF Side Impact Sensor - Right Front*
B63RR	Side Impact Sensor – Right Rear	AY0	At the right rear of the passenger compartment, mounted inside the right rear door, at the bottom	*Right Rear Door Components*	*B63RR Side Impact Sensor - Right Rear*
B68A	Knock Sensor 1	except LML	In the engine compartment, on the rear side of engine block	—	• *B68A Knock Sensor 1 (L96/LC8)* • *B68A Knock Sensor 1 (1500)*
B68B	Knock Sensor 2	except LML	In the engine compartment, on the rear side of engine block	*Right Side of Engine Components (L96)*	• *B68B Knock Sensor 2 (L96/LC8)* • *B68B Knock Sensor 2 (1500)*
B74	Manifold Absolute Pressure Sensor	except LML	In the engine compartment, left front of engine at throttle body	*Left Side of Engine Components (L96)*	• *B74 Manifold Absolute Pressure Sensor (1500)* • *B74 Manifold Absolute Pressure Sensor (L96/LC8)*
B74	Manifold Absolute Pressure Sensor	LML	In the engine compartment, left front top of engine in the intake manifold	*Left Side of Engine Components (LML)*	*B74 Manifold Absolute Pressure Sensor (LML)*
B75B	Mass Air Flow/Intake Air Temperature Sensor	2500 or 3500	In the engine compartment, in air intake tube, near the air filter housing	*Left Side of Engine Components (L96)*	• *B75B Mass Air Flow/Intake Air Temperature Sensor (LC8)* • *B75B Mass Air Flow/Intake Air Temperature Sensor (LML)* • *B75B Mass Air Flow/Intake Air Temperature Sensor (L96)*
B75C	Multifunction Intake Air Sensor	—	In the engine compartment left front, in air intake tube, near the air filter housing	—	• *B75C Multifunction Intake Air Sensor (except LML)* • *B75C Multifunction Intake Air Sensor (LML)*
B77LF	Radio Volume Compensator Interior Noise Microphone – Left Front	NKC	In the passenger compartment, at the left front of the headliner	*Headliner Components*	*B77LF Radio Volume Compensator Interior Noise Microphone - Left Front*
B77R	Radio Volume Compensator Interior Noise Microphone – Rear	NKC	In the passenger compartment, at the rear center of the headliner	*Headliner Components*	*B77R Radio Volume Compensator Interior Noise Microphone - Rear*
B77RF	Radio Volume Compensator Interior Noise Microphone – Right Front	NKC	In the passenger compartment, at the right front of the headliner	*Headliner Components*	*B77RF Radio Volume Compensator Interior Noise Microphone - Right Front*
B78A	Front Object Sensor – Left Outer	UD5	Outside the vehicle, mounted to the left side of the front bumper	• *Front of Vehicle (Chevrolet) Components* • *Front of Vehicle (GMC) Components*	*B78A Front Object Sensor - Left Outer*

B78B	Front Object Sensor – Right Outer	UD5	Outside the vehicle, mounted to the right side of the front bumper	- *Front of Vehicle (Chevrolet) Components* - *Front of Vehicle (GMC) Components*	*B78B Front Object Sensor - Right Outer*
B78C	Front Object Sensor – Left Middle	UD5	Outside the vehicle, mounted to the left middle of the front bumper	- *Front of Vehicle (Chevrolet) Components* - *Front of Vehicle (GMC) Components*	*B78C Front Object Sensor - Left Middle*
B78D	Front Object Sensor – Right Middle	UD5	Outside the vehicle, mounted to the right middle of the front bumper	- *Front of Vehicle (Chevrolet) Components* - *Front of Vehicle (GMC) Components*	*B78D Front Object Sensor - Right Middle*
B78E	Rear Object Sensor – Left Middle	UD7	Outside the vehicle, mounted to the left middle of the rear bumper	*Rear of Vehicle Components*	*B78E Rear Object Sensor - Left Middle*
B78F	Rear Object Sensor – Right Middle	UD7	Outside the vehicle, mounted to the right middle of the rear bumper	*Rear of Vehicle Components*	*B78F Rear Object Sensor - Right Middle*
B78G	Rear Object Sensor – Left Outer	UD7	Outside the vehicle, mounted to the left side of the rear bumper	*Rear of Vehicle Components*	*B78G Rear Object Sensor - Left Outer*
B78H	Rear Object Sensor – Right Outer	UD7	Outside the vehicle, mounted to the right side of the rear bumper	*Rear of Vehicle Components*	*B78H Rear Object Sensor - Right Outer*
B80	Park Brake Switch	—	In the passenger compartment, at the left side of the Driver Footwell	—	*B80 Park Brake Switch*
B81B	Park Position Switch	M5U, MW7, MYC or MYD	In the passenger compartment, on the steering column near the base of the shifter	—	—
B87	Rearview Camera	UVC	Outside the vehicle, at the top middle of the tailgate, mounted in the tailgate handle	—	—
B88D	Seat Belt Switch – Driver	—	In the passenger compartment, at the inboard side of the driver seat, part of the seat belt buckle	—	*B88D Seat Belt Switch - Driver*
B88P	Seat Belt Switch – Passenger	1500	In the passenger compartment, at the inboard side of the passenger seat, part of the seat belt buckle	—	*B88P Seat Belt Switch - Passenger*
B99	Steering Wheel Angle Sensor	—	In the passenger compartment, at the top of the steering column, behind the steering wheel air bag coil	—	*B99 Steering Wheel Angle Sensor*
B107	Accelerator Pedal Position Sensor	—	In the passenger compartment, in the driver side footwell, under the intstrument panel	—	*B107 Accelerator Pedal Position Sensor*
B112	Turbocharger Vane Position Sensor	LML	In the engine compartment, on the top rear center of the engine	*Left Side of Engine Components (LML)*	*B112 Turbocharger Vane Position Sensor*
B115	Vehicle Speed Sensor	NQF, NQG or NQH	Under the vehicle , at the rear of the transfer case	- *Manual Transmission Components (MXW)* - *Manual Transmission Components (MQ7)*	- *B115 Vehicle Speed Sensor (L83/L86/L8B)* - *B115 Vehicle Speed Sensor (LML)* - *B115 Vehicle Speed Sensor (MXW)*
B116	Water in Fuel Sensor	LML	In the engine compartment, at the right rear of the engine, mounted in the bottom of the fuel filter	*Underbody Components (LML)*	*B116 Water in Fuel Sensor*

B118B	Windshield Washer Fluid Level Switch	—	Outside the vehicle, at the left front corner of the vehicle, below the headlight assembly, in the washer fluid reservoir	*Left Side of Engine Compartment Components (except LML)*	*B118B Windshield Washer Fluid Level Switch*
B130A	Exhaust Gas Recirculation Temperature Sensor 1	LML	In the engine compartment, on the top right rear of the engine	*Right Rear Side of the Engine Components (LML)*	*B130A Exhaust Gas Recirculation Temperature Sensor 1*
B130B	Exhaust Gas Recirculation Temperature Sensor 2	LML	In the engine compartment, on the top left middle of the engine	*Left Side of Engine Components (LML)*	*B130B Exhaust Gas Recirculation Temperature Sensor 2*
B131A	Exhaust Temperature Sensor 1	LML	In the engine compartment, on the right rear of the engine, mounted on top of the exhaust pipe	*Right Rear Side of the Engine Components (LML)*	*B131A Exhaust Temperature Sensor 1*
B131B	Exhaust Temperature Sensor 2	LML	Under the vehicle, on left side, behind the catalytic converter	—	*B131B Exhaust Temperature Sensor 2*
B131C	Exhaust Temperature Sensor 3	LML	Under the vehicle, attached to the exhaust pipe, at the middle of the diesel particulate filter	*Chassis Components (2500/3500)*	• *B131C Exhaust Temperature Sensor 3 (Crew Cab except Chassis Cab)* • *B131C Exhaust Temperature Sensor 3 (Regular Cab, Extended Cab or Crew Cab with Chassis Cab)*
B131D	Exhaust Temperature Sensor 4	LML	Under the vehicle, attached to the exhaust pipe, near the rear of the diesel particulate filter	*Chassis Components (2500/3500)*	• *B131D Exhaust Temperature Sensor 4 (Crew Cab with Chassis Cab)* • *B131D Exhaust Temperature Sensor 4 (Regular Cab, Extended Cab or Crew Cab except Chassis Cab)*
B136	Exhaust Particulate Matter Sensor	LML	On the underbody, mounted to the inboard side of the right frame rail, forward of the right rear shock	—	*B136 Exhaust Particulate Matter Sensor*
B137B	Power Steering Shaft Torque/Position Sensor	1500	Under the vehicle, part of the steering gear assembly	—	*B137B Power Steering Shaft Torque/Position Sensor (1500)*
B150	Fuel Tank Pressure Sensor	except LML	Under the vehicle, at the top of the fuel tank	*Rear Chassis Components (except Chassis Cab or LML)*	*B150 Fuel Tank Pressure Sensor*
B150	Fuel Tank Pressure Sensor	N2L or N2N except LML	Under the vehicle, at the top of the fuel tank	*Chassis Components (Chassis Cab)*	—
B152LF	Suspension Position Sensor – Left Front	Z95	Under the vehicle, at the left front corner of the frame	*Front Chassis Components (1500)*	*B152LF Suspension Position Sensor - Left Front (Z95)*
B152LR	Suspension Position Sensor – Left Rear	Z95	Under the vehicle, at the left rear corner of the frame	*Rear Chassis Components (except Chassis Cab or LML)*	*B152LR Suspension Position Sensor - Left Rear (Z95)*
B152RF	Suspension Position Sensor – Right Front	Z95	Under the vehicle, at the right front corner of the frame	*Front Chassis Components (1500)*	*B152RF Suspension Position Sensor - Right Front (Z95)*
B152RR	Suspension Position Sensor – Right Rear	Z95	Under the vehicle, at the right rear corner of the frame	*Rear Chassis Components (except Chassis Cab or LML)*	*B152RR Suspension Position Sensor - Right Rear (Z95)*
B153D	Seat Belt Buckle – Driver	—	In the passenger compartment, at the inboard side of the drive seat	*Front of Driver Seat Components*	*B153D Seat Belt Buckle - Driver*
B153P	Seat Belt Buckle – Passenger	—	In the passenger compartment, at the inboard side of the passenger seat	*Front of Passenger Seat Components*	*B153P Seat Belt Buckle - Passenger*
B154	Diesel Particulate Filter Exhaust Differential Pressure Sensor	LML	Under the vehicle, mounted to the frame, near the diesel particulate filter	*Chassis Components (2500/3500)*	*B154 Diesel Particulate Filter Exhaust Differential Pressure Sensor*
B155	Adjustable Pedal Position Sensor	JF4	In the passenger compartment, mounted to the accelerator pedal assembly	—	—

B192	Throttle Inlet Absolute Pressure Sensor	L96 or LC8	Right front of the engine compartment, on the air cleaner box	*Left Side of Engine Components (L96)*	*B192 Throttle Inlet Absolute Pressure Sensor (L96 or LC8)*
B193A	Charge Air Cooler Inlet Temperature Sensor	LML	In the engine compartment, mounted in the air inlet tube, near the air cleaner	*Left Side of Engine Components (LML)*	*B193A Charge Air Cooler Inlet Temperature Sensor*
B193B	Charge Air Cooler Outlet Temperature Sensor	LML	In the engine compartment, mounted in the air inlet tube, near the throttle body	—	*B193B Charge Air Cooler Outlet Temperature Sensor*
B194	Reductant Pressure Sensor	LML	Under the vehicle, mounted in the reductant fluid reservoir assembly	—	—
B195A	Nitrogen Oxides Sensor 1	LML	In the engine compartment, attached to the exhaust pipe, on the top left rear side of the engine	• *Left Side of Engine Compartment Components (LML)* • *Chassis Components (Chassis Cab)* • *Left Side of Engine Components (LML)* • *Chassis Components (2500/3500)*	*B195A Nitrogen Oxides Sensor 1*
B195B	Nitrogen Oxides Sensor 2	LML	Under the vehicle, attached to the exhaust pipe, at the middle of the diesel particulate filter	*Chassis Components (2500/3500)*	*B195B Nitrogen Oxides Sensor 2*
B198	Fuel Composition Sensor	—	Under the vehicle, mounted to the left side of the frame	—	• *B198 Fuel Composition Sensor (1500)* • *B198 Fuel Composition Sensor (2500/3500)*
B212	Reductant Sensor Module	LML	Under the vehicle, above the reductant tank	—	—
B215	Fuel Filter Pressure Switch	LML	In the engine compartment, on the middle right side of the engine	*Right Side of Engine Components (LML)*	*B215 Fuel Filter Pressure Switch*
B227	Gear Position Sensor	NQH	Under the vehicle, mounted to the transfer case	—	*B227 Gear Position Sensor*
B229	Alternative Fuel Rail Pressure/Temperature Sensor	LC8	In the engine compartment, on top of the engine, mounted to the left bank alternative fuel rail, facing towards the front of the vehicle.	—	*B229 Alternative Fuel Rail Pressure/Temperature Sensor (LC8)*
B235	Starter/Generator Coolant Temperature Sensor	HP5	In the engine compartment, on the right front side	—	*B235 Starter/Generator Coolant Temperature Sensor*
B257	Alternative Fuel Pressure Sensor	LC8	Under the CNG tank cover, part of the CNG Fuel Tank Assembly	—	*B257 Alternative Fuel Pressure Sensor (LC8)*
B263	Alternative Fuel Tank Temperature Sensor	LC8	Under the CNG tank cover, part of the CNG Fuel Tank Assembly	—	*B263 Alternative Fuel Tank Temperature Sensor (LC8)*
B264	CNG High Pressure Regulator Temperature Sensor	LC8	Under the CNG tank cover, part of the CNG Fuel Tank Assembly	—	*B264 CNG High Pressure Regulator Temperature Sensor (LC8)*
C1	Battery	—	In the engine compartment, at the right rear corner	*Right Side of Engine Compartment Components*	—
C1B	Battery – Auxiliary	K4B, K4D or LML	In the engine compartment, at the left front corner, forward of the underhood fuse block	*Left Side of Engine Compartment Components (except LML)*	—
C5A	Hybrid/EV Battery Module 1	HP5	Under the center console, inside the Hybrid/EV Battery Pack	—	• *C5A Hybrid/EV Battery Module 1 X1* • *C5A Hybrid/EV Battery Module 1 X2*

C5B	Hybrid/EV Battery Module 2	HP5	Under the center console, inside the Hybrid/EV Battery Pack	—	• *C5B Hybrid/EV Battery Module 2 X1* • *C5B Hybrid/EV Battery Module 2 X2*
E1L	Accent Lamp – Overhead Console	—	In the passenger compartment, at the front of the headliner, in the overhead console	—	*E1L Accent Lamp - Overhead Console*
E2A	Marker Lamp – Endgate	Dual Rear Wheel except ZW9	Outside the vehicle, at the bottom middle of the tailgate	—	*E2A Maker Lamp-Endgate*
E2LF	Side Marker Lamp – Left Front	Z88	Outside the vehicle, at the left front corner, mounted in the left headlight assembly	—	—
E2LM	Side Marker Lamp – Left Middle	DPN or DQS	Outside the vehicle, part of the outside rearview mirror	—	—
E2LR	Side Marker Lamp – Left Rear	Z88	Outside the vehicle, at the left rear corner, mounted in the left tail light assembly	—	—
E2RF	Side Marker Lamp – Right Front	Z88	Outside the vehicle, at the right front corner, mounted in the right headlight assembly	—	—
E2RM	Side Marker Lamp – Right Middle	DPN or DQS	Outside the vehicle, part of the outside rearview mirror	—	—
E2RR	Side Marker Lamp – Right Rear	Z88	Outside the vehicle, at the right rear corner, mounted in the right tail light assembly	—	—
E3A	Roof Clearance Lamp – Left Front Outer	U01	Outside the vehicle, at the front of the roof	—	*E3B Roof Clearance Lamp - Left Front Inner*
E3C	Roof Clearance Lamp – Front Middle	U01	Outside the vehicle, at the front of the roof	—	*E3A Roof Clearance Lamp - Left Front Outer*
E3E	Roof Clearance Lamp – Right Front Outer	U01	Outside the vehicle, at the front of the roof	—	*E3E Roof Clearance Lamp - Right Front Outer (U01)*
E3LF	Rear Fender Clearance Lamp – Left Front	Dual Rear Wheel except ZW9	Outside the vehicle, on the rear wheel fender flare	—	*E3LF Rear Fender Clearance Lamp - Left Front (Dual Rear Wheel except ZW9)*
E3LR	Rear Fender Clearance Lamp – Left Rear	Dual Rear Wheel except ZW9	Outside the vehicle, on the rear wheel fender flare	—	*E3LR Rear Fender Clearance Lamp - Left Rear (Dual Rear Wheel except ZW9)*
E3RF	Rear Fender Clearance Lamp – Right Front	Dual Rear Wheel except ZW9	Outside the vehicle, on the rear wheel fender flare	—	*E3RF Rear Fender Clearance Lamp - Right Front*
E3RR	Rear Fender Clearance Lamp – Right Rear	Dual Rear Wheel except ZW9	Outside the vehicle, on the rear wheel fender flare	—	*E3RR Rear Fender Clearance Lamp - Right Rear*
E4AC	Park/Daytime Running Lamp – Left	Z88 with SLT	At the left front of the vehicle, in the headlamp assembly	*Front of Vehicle (GMC) Components*	*E4AC Park/Daytime Running Lamp - Left (Z88 with SLT)*
E4AD	Park/Daytime Running Lamp – Right	Z88 with SLT	At the right front of the vehicle, in the headlamp assembly	*Front of Vehicle (GMC) Components*	*E4AD Park/Daytime Running Lamp - Right (Z88 with SLT)*
E4E	Headlamp – Left High Beam	X88	Outside the vehicle, at the left front corner, mounted in the left headlight assembly	*Front of Vehicle (Chevrolet) Components*	*E4E Headlamp - Left High Beam (X88)*
E4F	Headlamp – Right High Beam	X88	Outside the vehicle, at the right front corner, mounted in the right headlight assembly	*Front of Vehicle (Chevrolet) Components*	*E4F Headlamp - Right High Beam (X88)*

E4G	Headlamp – Left Low Beam	—	Outside the vehicle, at the left front corner, mounted in the left headlight assembly	• *Front of Vehicle (Chevrolet) Components* • *Front of Vehicle (GMC) Components*	*E4G Headlamp – Left Low Beam*
E4H	Headlamp – Right Low Beam	—	Outside the vehicle, at the right front corner, mounted in the right headlight assembly	• *Front of Vehicle (Chevrolet) Components* • *Front of Vehicle (GMC) Components*	*E4H Headlamp – Right Low Beam*
E4J	Park Lamp – Left Front	Z88 with SLT	Outside the vehicle, at the left front corner, mounted in the left headlight assembly	*Front of Vehicle (GMC) Components*	*E4J Park Lamp - Left Front (Z88 with SLT)*
E4K	Park Lamp – Right Front	Z88 with SLT	Outside the vehicle, at the right front corner, mounted in the right headlight assembly	*Front of Vehicle (GMC) Components*	*E4K Park Lamp - Right Front (Z88 with SLT)*
E4N	Park/Turn Signal Lamp – Left	Z88	Outside the vehicle, at the left front corner, mounted in the left headlight assembly	*Front of Vehicle (GMC) Components*	*E4N Park/Turn Signal Lamp – Left (Z88)*
E4P	Park/Turn Signal Lamp – Right	Z88	Outside the vehicle, at the right front corner, mounted in the right headlight assembly	*Front of Vehicle (GMC) Components*	*E4P Park/Turn Signal Lamp – Right (Z88)*
E4Q	Park/Turn Signal Lamp – Left Lower	X88	Outside the vehicle, at the left front corner, mounted in the left headlight assembly	*Front of Vehicle (Chevrolet) Components*	—
E4R	Park/Turn Signal Lamp – Right Lower	X88	Outside the vehicle, at the right front corner, mounted in the right headlight assembly	*Front of Vehicle (Chevrolet) Components*	—
E4S	Park/Turn Signal Lamp – Left Upper	X88	Outside the vehicle, at the left front corner, mounted in the left headlight assembly	*Front of Vehicle (Chevrolet) Components*	—
E4T	Park/Turn Signal Lamp – Right Upper	X88	Outside the vehicle, at the right front corner, mounted in the right headlight assembly	*Front of Vehicle (Chevrolet) Components*	—
E4Y	Turn Signal Repeater Lamp – Left	DL3, DL8, DPN or DQS	Outside the vehicle, at the front of the driver door, on the outside rearview mirror	—	—
E4Z	Turn Signal Repeater Lamp – Right	DL3, DL8, DPN or DQS	Outside the vehicle, at the front of the passenger door, on the outside rearview mirror	—	—
E5A	Backup Lamp – Left	—	Outside the vehicle, at the left rear corner, mounted in the left tail light assembly	*Rear of Vehicle Components*	—
E5AG	Tail/Stop and Turn Signal Lamp – Left Upper	without ZW9	Outside the vehicle, at the left rear corner, mounted in the left tail light assembly	*Rear of Vehicle Components*	—
E5AH	Tail/Stop and Turn Signal Lamp – Right Upper	without ZW9	Outside the vehicle, at the right rear corner, mounted in the right tail light assembly	*Rear of Vehicle Components*	—
E5B	Backup Lamp – Right	—	Outside the vehicle, at the right rear corner, mounted in the right tail light assembly	*Rear of Vehicle Components*	—
E5S	Tail/Stop and Turn Signal Lamp – Left	ZW9	At the rear of the vehicle, mounted to the rear of the frame	—	—
E5T	Tail/Stop and Turn Signal Lamp – Right	ZW9	At the rear of the vehicle, mounted to the rear of the frame	—	—
E5U	Tail/Stop and Turn Signal Lamp – Left Lower	without ZW9	Outside the vehicle, at the left rear corner, mounted in the left tail light assembly	*Rear of Vehicle Components*	—
E5V	Tail/Stop and Turn Signal Lamp – Right Lower	without ZW9	Outside the vehicle, at the right rear corner, mounted in the right tail light assembly	*Rear of Vehicle Components*	—

E6	Center High Mounted Stop Lamp	—	Outside the vehicle, at the top center of the rear window	*Rear of Vehicle Components*	*E6 Center High Mounted Stop Lamp*
E7	License Plate Lamp	E63 with 9J4	At the rear of the vehicle, mounted to the rear of the frame	—	—
E7L	License Plate Lamp – Left	E63 without 9J4	Outside the vehicle, mounted in the middle of the rear bumper	*Rear of Vehicle Components*	*E7L License Plate Lamp - Left*
E7R	License Plate Lamp – Right	E63 without 9J4	Outside the vehicle, mounted in the middle of the rear bumper	*Rear of Vehicle Components*	*E7R License Plate Lamp - Right*
E8YD	Outside Rearview Mirror Courtesy Lamp – Driver	DL3	Outside the vehicle, at the front of the driver door, part of the outside rearview mirror	—	*E8YD Outside Rearview Mirror Courtesy Lamp - Driver (DL3)*
E8YP	Outside Rearview Mirror Courtesy Lamp – Passenger	DL3	Outside the vehicle, at the front of the passenger door, part of the outside rearview mirror	—	*E8YP Outside Rearview Mirror Courtesy Lamp - Passenger (DL3)*
E12A	Glow Plug 1	LML	In the engine compartment, In the cylinder head at cylinder 1	*Right Side of Engine Components (LML)*	*E12A Glow Plug 1*
E12B	Glow Plug 2	LML	In the engine compartment, In the cylinder head at cylinder 2	*Left Side of Engine Components (LML)*	*E12B Glow Plug 2*
E12C	Glow Plug 3	LML	In the engine compartment, In the cylinder head at cylinder 3	*Right Side of Engine Components (LML)*	*E12C Glow Plug 3*
E12D	Glow Plug 4	LML	In the engine compartment, In the cylinder head at cylinder 4	*Left Side of Engine Components (LML)*	*E12D Glow Plug 4*
E12E	Glow Plug 5	LML	In the engine compartment, In the cylinder head at cylinder 5	*Right Rear Side of the Engine Components (LML)*	*E12E Glow Plug 5*
E12F	Glow Plug 6	LML	In the engine compartment, In the cylinder head at cylinder 6	*Left Side of Engine Components (LML)*	*E12F Glow Plug 6*
E12G	Glow Plug 7	LML	In the engine compartment, In the cylinder head at cylinder 7	*Right Rear Side of the Engine Components (LML)*	*E12G Glow Plug 7*
E12H	Glow Plug 8	LML	In the engine compartment, In the cylinder head at cylinder 8	*Left Side of Engine Components (LML)*	*E12H Glow Plug 8*
E13LA	Headlamp Assembly – Left	—	Outside the vehicle, at the left front corner	—	—
E13RA	Headlamp Assembly – Right	—	Outside the vehicle, at the right front corner	—	—
E14A	Seat Heating Element – Driver Back	KA1/KB6	In the passenger compartment, in the driver seat back	*Front of Driver Seat Components*	• *E14A Seat Heating Element - Driver Back (KA1)* • *E14A Seat Heating Element - Driver Back (KB6)*
E14B	Seat Heating Element – Driver Cushion	KA1/KB6	In the passenger compartment, in the driver seat cushion	*Front of Driver Seat Components*	• *E14B Seat Heating Element - Driver Cushion (KB6)* • *E14B Seat Heating Element - Driver Cushion (KA1)*
E14C	Seat Heating Element – Passenger Back	KA1/KB6	In the passenger compartment, in the passenger seat back	*Back of Passenger Seat Components*	• *E14C Seat Heating Element - Passenger Back (KA1)* • *E14C Seat Heating Element - Passenger Back (KB6)*

E14D	Seat Heating Element – Passenger Cushion	KA1/KB6	In the passenger compartment, in the passenger seat cushion	*Front of Passenger Seat Components*	• *E14D Seat Heating Element - Passenger Cushion (KB6)* • *E14D Seat Heating Element - Passenger Cushion (KA1)*
E15	Steering Wheel Heater	UVD	In the passenger compartment, part of the steering wheel	—	*E15 Steering Wheel Heater*
E17D	Outside Rearview Mirror Glass – Driver	DL3, DL8, DPN or DQS	Outside the vehicle, at the front of the driver door, part of the outside rearview mirror	—	• *E17D Outside Rearview Mirror Glass - Driver X1 (DL3, DL8, DPN or DQS)* • *E17D Outside Rearview Mirror Glass - Driver X2 (DL3, DL8, DPN or DQS)* • *E17D Outside Rearview Mirror Glass - Driver X3 (DL3 or DPN)*
E17P	Outside Rearview Mirror Glass – Passenger	DL3, DL8, DPN or DQS	Outside the vehicle, at the front of the passenger door, part of the outside rearview mirror	—	• *E17P Outside Rearview Mirror Glass - Passenger X1 (DL3, DL8, DPN or DQS)* • *E17P Outside Rearview Mirror Glass - Passenger X2 (DL3, DL8, DPN or DQS)* • *E17P Outside Rearview Mirror Glass - Passenger X3 (DL3 or DPN)*
E18	Rear Defogger Grid	C49	At the rear of the passenger compartment, part of the rear window glass	*Rear of Vehicle Components*	*E18 Rear Defogger Grid*
E24	Intake Air Heater	LML	In the engine compartment, near the throttle body	*Right Side of Engine Components (LML)*	*E24 Intake Air Heater*
E28	Center Console Compartment Lamp	D07	In the passenger compartment, between the front seats, inside the center console storage bin	—	*E28 Center Console Compartment Lamp*
E29LF	Fog Lamp – Left Front	T3U	Outside the vehicle, at the left front corner, in the front bumper, below the headlight assembly	• *Front of Vehicle (Chevrolet) Components* • *Front of Vehicle (GMC) Components*	*E29LF Fog Lamp - Left Front*
E29RF	Fog Lamp – Right Front	T3U	Outside the vehicle, at the right front corner, in the front bumper, below the headlight assembly	• *Front of Vehicle (Chevrolet) Components* • *Front of Vehicle (GMC) Components*	*E29RF Fog Lamp - Right Front*
E31L	Sunshade Mirror Lamp – Left	DH6	In the passenger compartment, at the left front of the headliner	*Headliner Components*	*E31L Sunshade Mirror Lamp - Left*
E31R	Sunshade Mirror Lamp – Right	DH6	In the passenger compartment, at the right front of the headliner	*Headliner Components*	*E31R Sunshade Mirror Lamp - Right*
E33L	Cargo Lamp – Left	S0Y or UF2	Outside the vehicle, beneath the top of the left side of the bed	—	*E33L Cargo Lamp - Left (S0Y/UF2)*
E33R	Cargo Lamp – Right	S0Y or UF2	Outside the vehicle, beneath the top of the right side of the bed	—	*E33R Cargo Lamp - Right (S0Y/UF2)*
E37B	Dome/Reading Lamps – 2nd Row	Extended or Crew Cab without U42	In the passenger compartment, near the center of the headliner	*Headliner Components*	*E37B Dome/Reading Lamps - 2nd Row*
E37EL	Dome/Reading Lamps – Front Overhead Console Left	—	In the passenger compartment, at the left side of the overhead console	*Headliner Components*	*E37EL Dome/Reading Lamps - Front Overhead Console Left*

E37ER	Dome/Reading Lamps – Front Overhead Console Right	—	In the passenger compartment, at the right side of the overhead console	*Headliner Components*	*E37ER Dome/Reading Lamps - Front Overhead Console Right*
E40	Electrical Auxiliary Heater	C32	In the passenger compartment, at the top of the HVAC box	*Front of HVAC Assembly Components*	—
E42L	Tail Lamp Assembly – Left	—	Outside the vehicle, at the left rear corner of the vehicle	—	—
E42R	Tail Lamp Assembly – Right	—	Outside the vehicle, at the right rear corner of the vehicle	—	—
E52	Reductant Line Heater	LML	Under the vehicle, above the reductant tank	—	—
E53	Reductant Tank Heater	LML	Under the vehicle, inside the reductant tank	—	—
E63D	Flood Lamp – Driver Door Handle	A31	In the passenger compartment, in the driver door handle trim panel	—	*E63D Flood Lamp – Driver Door Handle (A31)*
E63P	Flood Lamp – Passenger Door Handle	A31	In the passenger compartment, in the passenger door handle trim panel	—	*E63P Flood Lamp – Passenger Door Handle (A31)*
E70D	Outside Rearview Mirror Cargo Lamp – Driver	DPN or DQS	Outside the vehicle, in the outside rearview mirror	—	—
E70P	Outside Rearview Mirror Cargo Lamp – Passenger	DPN or DQS	Outside the vehicle, in the outside rearview mirror	—	—
F101	Passenger Instrument Panel Air Bag	—	In the passenger compartment, behind the instrument panel upper glove box	*Rear of Instrument Panel Components*	*F101 Passenger Instrument Panel Air Bag*
F102	Hybrid/EV Battery Pack Cable Cover	HP5	part of the starter/generator control module	—	*F102 Hybrid/EV Battery Pack Cable Cover*
F105L	Roof Rail Air Bag – Left	AY0	In the passenger compartment, along the left side of the headliner	*Roof Rail Air Bags*	*F105L Roof Rail Air Bag - Left (AY0)*
F105R	Roof Rail Air Bag – Right	AY0	In the passenger compartment, along the right side of the headliner	*Roof Rail Air Bags*	*F105R Roof Rail Air Bag - Right (AY0)*
F106D	Seat Side Air Bag – Driver	AY0	In the passenger compartment, in the outboard side of the driver seat back	*Back of Driver Seat Components*	*F106D Seat Side Air Bag - Driver*
F106DA	Seat Side Air Bag - Driver	AYQ	In the passenger compartment, on the right side of the left front seat back	—	*F106DA Seat Side Air Bag - Driver Inboard*
F106P	Seat Side Air Bag – Passenger	AY0	In the passenger compartment, in the outboard side of the passenger seat back	*Back of Passenger Seat Components*	*F106P Seat Side Air Bag - Passenger*
F107	Steering Wheel Air Bag	—	In the passenger compartment, mounted to the middle of the steeing wheel	—	• *F107 Steering Wheel Air Bag X1 (1500)* • *F107 Steering Wheel Air Bag X2 (1500)*
F112D	Seat Belt Retractor Pretensioner – Driver	—	In the passenger compartment, at the base of the driver side B-pillar	—	*F112D Seat Belt Retractor Pretensioner - Driver*
F112P	Seat Belt Retractor Pretensioner – Passenger	—	In the passenger compartment, at the base of the passenger side B-pillar	—	*F112P Seat Belt Retractor Pretensioner - Passenger*
F113D	Seat Belt Anchor Pretensioner – Driver	—	In the passenger compartment, mounted to the outboard driver seat track	*Front of Driver Seat Components*	*F113D Seat Belt Anchor Pretensioner - Driver*

F113P	Seat Belt Anchor Pretensioner – Passenger	—	In the passenger compartment, mounted to the outboard passenger seat track	*Front of Passenger Seat Components*	*F113P Seat Belt Anchor Pretensioner - Passenger*
G1	A/C Compressor	C67 or CJ2	In the engine compartment, mounted on the lower front of the engine	*Left Side of Engine Components (LML)*	—
G10L	Cooling Fan Motor – Left	1500	In the engine compartment, in the radiator shroud	—	*G10L Cooling Fan Motor - Left*
G10R	Cooling Fan Motor – Right	1500	In the engine compartment, in the radiator shroud	—	*G10R Cooling Fan Motor - Right*
G12A	Fuel Pump – Primary	without LML	Under the vehicle, in the primary fuel tank, part of the fuel pump and level sensor assembly	—	—
G12B	Fuel Pump – Secondary	L96 with N2N	Under the vehicle, in the secondary fuel tank, part of the fuel pump and level sensor assembly	—	—
G12	Fuel Pump	LML with N2N	Under the vehicle, along the left frame rail between the fuel tanks	—	*G12 Fuel Pump*
G13	Generator	—	In the engine compartment, at the top left front of the engine	• *Left Side of Engine Components (L96)* • *Left Side of Engine Components (LML)*	• *G13 Generator X1* • *G13 Generator X2*
G13E	Generator – Auxiliary	KH5 or KHB	In the engine compartment, at the top right front of the engine	*Right Side of Engine Components (LML)*	• *G13E Generator - Auxiliary X1 (KH5 or KHB)* • *G13E Generator - Auxiliary X2 (KH5 or KHB)*
G14	Hybrid/EV Battery Pack Cooling Fan	HP5	Under the center console, inside the Hybrid/EV Battery Pack	—	*G14 Hybrid/EV Battery Pack Cooling Fan*
G17	Heater Coolant Pump	HP5	In the engine compartment, lower left rear mounted to engine block	—	*G17 Heater Coolant Pump*
G18	High Pressure Fuel Pump	1500	In the engine compartment, at the top rear of the engine, between the cylinder heads	—	*G18 High Pressure Fuel Pump (1500)*
G24	Windshield Washer Pump	—	In the engine compartment, attached to the washer fluid reservoir, below the left headlamp assembly	*Left Side of Engine Compartment Components (except LML)*	*G24 Windshield Washer Pump*
G33	Reductant Pump	LML	Under the vehicle, above the right front reductant tank	—	—
G43	Starter/Generator Coolant Pump	HP5	In the engine compartment, left lower front corner of engine	—	*G43 Starter/Generator Coolant Pump*
K4	Assist Step Control Module	BRS	Underneath the vehicle, along the outside of the left frame rail, near the driver door	—	• *K4 Assist Step Control Module X1 (BRS)* • *K4 Assist Step Control Module X2 (BRS)*

K9	Body Control Module	—	In the passenger compartment, behind the driver side of the instrument panel, outboard of the steering column	*Rear of Instrument Panel Components*	- *K9 Body Control Module X1* - *K9 Body Control Module X2* - *K9 Body Control Module X3* - *K9 Body Control Module X4* - *K9 Body Control Module X5* - *K9 Body Control Module X6* - *K9 Body Control Module X7*
K17	Electronic Brake Control Module	—	Under the vehicle, mounted to the left side of the frame rail	- *Chassis Components (Chassis Cab)* - *Chassis Components (2500/3500)*	*K17 Electronic Brake Control Module*
K19	Suspension Control Module	Z95	Under the vehicle, mounted to the bracket above the spare tire	*Rear Chassis Components (except Chassis Cab or LML)*	*K19 Suspension Control Module*
K20	Engine Control Module	—	In the engine compartment, left front of the engine, near the underhood fuse block	- *Left Side of Engine Compartment Components (LML)* - *Left Side of Engine Compartment Components (except LML)*	- *K20 Engine Control Module X1 (L8B)* - *K20 Engine Control Module X1 (NQG)* - *K20 Engine Control Module X1 (NQH)* - *K20 Engine Control Module X1 (L96/LC8)* - *K20 Engine Control Module X1 (LML)* - *K20 Engine Control Module X2 (L8B)* - *K20 Engine Control Module X2 (L83 with MYC except NQH/NQG)* - *K20 Engine Control Module X2 (NQH/NQG)* - *K20 Engine Control Module X2 (L96/LC8)* - *K20 Engine Control Module X2 (LML)* - *K20 Engine Control Module X3 (L83/L86)* - *K20 Engine Control Module X3 (LV1/LV3)* - *K20 Engine Control Module X3 (L96/LC8)* - *K20 Engine Control Module X3 (LML)*
K22	Cooling Fan Control Module	LML	In the engine compartment, mounted in the fan shroud	—	*K22 Cooling Fan Control Module*
K29	Seat Heating Control Module	KA1 without KB6	In the passenger compartment, under the front of the passenger seat	- *Bottom of Passenger Seat Components (without GAJ or Y91)* - *Bottom of Passenger Seat Components (GAJ or Y91)*	- *K29 Seat Heating Control Module X1* - *K29 Seat Heating Control Module X2*
K32	Steering Wheel Heating Control Module	UVD	In the passenger compartment, in the steering wheel, behind the driver air bag	—	—

K33	HVAC Control Module	—	In the passenger compartment, behind the passenger side of the instrument panel, at the top of the HVAC box	*Front of HVAC Assembly Components*	• *K33 HVAC Control Module X1* • *K33 HVAC Control Module X2* • *K33 HVAC Control Module X3* • *K33 HVAC Control Module X4 (CJ2)*
K34	Glow Plug Control Module	LML	In the engine compartment, mounted to the top of the engine	*Right Side of Engine Components (LML)*	*K34 Glow Plug Control Module X2 (LML)*
K36	Inflatable Restraint Sensing and Diagnostic Module	—	In the passenger compartment, bolted to the floor between the front seats or under console if equiped	—	• *k36 Inflatable Restraint Sensing and Diagnostic Module X1* • *k36 Inflatable Restraint Sensing and Diagnostic Module X2*
K38	Chassis Control Module	—	Under the vehicle, mounted to the bracket above the spare tire	• *Chassis Components (2500/3500)* • *Rear Chassis Components (except Chassis Cab or LML)* • *Chassis Components (Chassis Cab)*	*K38 Chassis Control Module*
K40	Seat Memory Control Module	A45	In the passenger compartment, under the driver seat	*Bottom of Driver Seat Components*	• *K40 Seat Memory Control Module X1* • *K40 Seat Memory Control Module X2* • *K40 Seat Memory Control Module X3* • *K40 Seat Memory Control Module X4* • *K40 Seat Memory Control Module X5* • *K40 Seat Memory Control Module X6*
K41	Front and Rear Parking Assist Control Module	UD5 or UD7	In the passenger compartment, bolted to the passenger side of the rear wall, behind the rear seat right side	—	• *K41 Front and Rear Parking Assist Control Module X1* • *K41 Front and Rear Parking Assist Control Module X2* • *K41 Front and Rear Parking Assist Control Module X3*
K43	Power Steering Control Module	—	Under the vehicle, part of the steering gear assembly	—	• *K43 Power Steering Control Module* • *K43 Power Steering Control Module X1 (1500)* • *K43 Power Steering Control Module X2 (1500)* • *K43 Power Steering Control Module X3 (1500)*
K44	Power Take-Off Control Module	PTO	Under the vehicle, mounted to the passenger side of the frame	• *Chassis Components (2500/3500)* • *Underbody Components (LML)*	• *K44 Power Take-Off Control Module X1* • *K44 Power Take-Off Control Module X2*
K53D	Seat Blower Assembly – Driver Back	KB6	In the passenger compartment, in the driver seat back	*Back of Driver Seat Components*	*K53D Seat Blower Assembly - Driver Back (KB6)*
K53P	Seat Blower Assembly – Passenger Back	KB6	In the passenger compartment, in the passenger seat cback	*Back of Passenger Seat Components*	*K53P Seat Blower Assembly - Passenger Back (KB6)*

K55D	Seat Blower Assembly – Driver Cushion	KB6	In the passenger compartment, in the driver seat cushion	*Bottom of Driver Seat Components*	*K55D Seat Blower Assembly - Driver Cushion (KB6)*
K55P	Seat Blower Assembly – Passenger Cushion	KB6	In the passenger compartment, in the passenger seat cushion	*Bottom of Passenger Seat Components (GAJ or Y91)*	*K55P Seat Blower Assembly - Passenger Cushion (KB6)*
K59	Starter/Generator Control Module	HP5	Under the center console, inside the Hybrid/EV Battery Pack	—	• *K59 Starter/Generator Control Module X1* • *K59 Starter/Generator Control Module X2*
K69	Transfer Case Control Module	NQF or NQH	In the passenger compartment, bolted to the bulkhead at the right side of the driver footwell above accelerator pedal	—	• *K69 Transfer Case Control Module X1* • *K69 Transfer Case Control Module X2* • *K69 Transfer Case Control Module X3*
K71	Transmission Control Module	MW7	In the engine compartment, mounted to the left side of the engine cooling fan shroud	*Left Side of Engine Compartment Components (LML)*	• *K71 Transmission Control Module (MW7 without AVF)* • *K71 Transmission Control Module (MW7)*
K71	Transmission Control Module	M5U	In the engine compartment, left rear side of bulkhead, near the brake master cylinder brake booster	*Left Side of Engine Compartment Components (except LML)*	*K71 Transmission Control Module (M5U/M5X)*
K71	Transmission Control Module	MYC or MYD	In the engine compartment, inside the transmission assembly, part of the control solenoid valve	—	—
K73	Telematics Communication Interface Control Module	UE1	In the passenger compartment, in the middle of the instrument panel, behind the info display module	*Rear of Instrument Panel Components*	• *K73 Telematics Communication Interface Control Module X1* • *K73 Telematics Communication Interface Control Module X2* • *K73 Telematics Communication Interface Control Module X5 (UE1)* • *K73 Telematics Communication Interface Control Module X7 (UE1 without CV3)*
K74	Human Machine Interface Control Module	IO4, IO5 or IO6	In the passenger compartment, behind the passenger side of the instrument panel, above the hush panel	*Rear of Instrument Panel Components*	• *K74 Human Machine Interface Control Module X1* • *K74 Human Machine Interface Control Module X2* • *K74 Human Machine Interface Control Module X3 (IO4, IO5 or IO6)* • *K74 Human Machine Interface Control Module X4 (IO4, IO5 or IO6)* • *K74 Human Machine Interface Control Module X5 (IO4, IO5 or IO6)* • *K74 Human Machine Interface Control Module X7 (IO6)*
K77	Remote Control Door Lock Receiver	AU3	In the passenger compartment, at the right rear top of headliner	—	*K77 Remote Control Door Lock Receiver*

K81L	Headlamp High Beam Control Module – Left	Z88	At the front of the vehicle, part of the left headlamp assembly	—	*K81L Headlamp High Beam Control Module - Left (Z88)*
K81R	Headlamp High Beam Control Module – Right	Z88	At the front of the vehicle, part of the right headlamp assembly	—	*K81R Headlamp High Beam Control Module - Right (Z88)*
K85	Passenger Presence Module	AL0	In the passenger compartment, in the passenger seat cushion	*Bottom of Passenger Seat Components (without GAJ or Y91)*	*K85 Passenger Presence Module*
K89	Immobilizer Control Module	—	In the passenger compartment, on the steering column side, near the ignition cylinder	—	*K89 Immobilizer Control Module*
K109	Frontview Camera Module	UFL/UHX	In the passenger compartment, behind the inside rearview mirror	*Headliner Components*	• *K109 Frontview Camera Module (UFL)* • *K109 Frontview Camera Module (UHX)*
K111	Fuel Pump Driver Control Module	1500	Under the vehicle, mounted to the bracket above the spare tire	—	*K111 Fuel Pump Driver Control Module*
K114	Hybrid/EV Powertrain Control Module X1	HP5	Under the center console, inside the Hybrid/EV Battery Pack	—	• *K114 Hybrid/EV Powertrain Control Module X1* • *K114 Hybrid/EV Powertrain Control Module X2* • *K114 Hybrid/EV Powertrain Control Module X3* • *K114 Hybrid/EV Powertrain Control Module X4* • *K114 Hybrid/EV Powertrain Control Module X5* • *K114 Hybrid/EV Powertrain Control Module X6* • *K114 Hybrid/EV Powertrain Control Module X7*
K119	CNG Control Module	LC8	In the engine compartment, mounted to a bracket that is mounted to the bottom of the battery tray, on the left front of the engine compartment	—	*K119 CNG Control Module (LC8)*
K130	Fuel Pump Disable Control Module	LC8	In the engine compartment, mounted to a bracket that is mounted to the bottom of the battery tray, on the left front of the engine compartment	—	*K130 Fuel Pump Disable Control Module (LC8)*
K133	Trailer Brake Power Control Module	JL1	Under the vehicle, mounted to the bracket above the spare tire	• *Chassis Components (2500/3500)* • *Chassis Components (Chassis Cab)*	*K133 Trailer Brake Power Control Module*
K166L	Multifunction LED Control Module – Left Headlamp	Z88 with SLT	At the front of the vehicle, part of the left headlamp assembly	—	*K166L Multifunction LED Control Module - Left Headlamp (Z88 with SLT)*
K166R	Multifunction LED Control Module – Right Headlamp	Z88 with SLT	At the front of the vehicle, part of the right headlamp assembly	—	*K166R Multifunction LED Control Module - Right Headlamp (Z88 with SLT)*
KR58	Roof Beacon Relay	TRW	In the passenger compartment, overhead, in the overhead console	—	*KR58 Roof Beacon Relay*

KR79	Auxiliary Battery Relay 2	K4B or K4D	In the engine compartment, left side, near C1B Auxiliary Battery	—	• *KR79 Auxiliary Battery Relay 2 X1 (K4B or K4D)* • *KR79 Auxiliary Battery Relay 2 X2 (K4B or K4D)* • *KR79 Auxiliary Battery Relay 2 X3 (K4B or K4D)*
KR81	Auxiliary Battery Relay 1	K4B or K4D	In the engine compartment, left side, near C1B Auxiliary Battery	—	*KR81 Auxiliary Battery Relay 1 (K4B or K4D)*
KR145	Alternative Fuel Injector Relay	LC8	Under the vehicle, near the left frame rail, above the spare tire, taped in the chassis harness	—	*KR145 Alternative Fuel Injector Relay (LC8)*
KR160	Fuel Pump Disable Relay	LC8	In the CNG tank box, part of the CNG Fuel Tank Assembly	—	*KR160 Fuel Pump Disable Relay (LC8)*
M4	Air Inlet Door Actuator	—	In the passenger compartment, behind the instrument panel glove box	*Front of HVAC Assembly Components*	*M4 Air Inlet Actuator*
M5	Adjustable Pedal Motor	JF4	In the passenger compartment, part of the accelerator pedal bracket assembly	—	*M5 Adjustable Pedal Motor*
M6L	Air Temperature Door Actuator – Left	—	In the passenger compartment, part of HVAC module, behind the instrument panel	*Front of HVAC Assembly Components*	*M6L Air Temperature Door Actuator - Left*
M6R	Air Temperature Door Actuator – Right	CJ2	In the passenger compartment, part of HVAC module, behind the instrument panel	*Back of HVAC Assembly Components*	*M6R Air Temperature Door Actuator - Right (CJ2)*
M7	Transmission Shift Lock Control Solenoid Actuator	M5U, MW7, MYC or MYD	In the passenger compartment, right side of the steering wheel, attached to transmission shift lever	—	*M7 Transmission Shift Lock Control Solenoid Actuator (M5U, MW7, MYC or MYD)*
M8	Blower Motor	—	In the passenger compartment, under the rigth side of the instrument panel, above the hush panel	*Back of HVAC Assembly Components*	*M8 Blower Motor*
M9	Brake Booster Pump Motor	HP5	In the right front wheelwell, mounted to the frame, forward of the axle shaft	—	*M9 Brake Booster Pump Motor*
M26	Front Axle Engagement Actuator	NQF, MQG or MQH	Under the vehicle, mounted to the front axle	*Front Axle Components*	• *M26 Front Axle Engagement Actuator* • *M26 Front Axle Engagement Actuator (2500 or 3500) with (NQF or NQG)*
M28L	High Beam Solenoid Actuator – Left	Z88	Outside the vehicle, at the left front corner, part of the headlight assembly	—	*M28L High Beam Solenoid Actuator - Left (Z88)*
M28R	High Beam Solenoid Actuator – Right	Z88	Outside the vehicle, at the right front corner, part of the headlight assembly	—	*M28R High Beam Solenoid Actuator - Right (Z88)*
M37L	Mode Door Actuator – Left	—	In the passenger compartment, behind the left side of the instrument panel, on the upper left side of the HVAC module	*Front of HVAC Assembly Components*	*M37L Mode Door Actuator - Left*
M38	Power Steering Motor	1500	Under the vehicle, part of the steering gear assembly	—	—
M50D	Seat Front Vertical Motor – Driver	—	In the passenger compartment, under the driver seat	*Bottom of Driver Seat Components*	*M50D Seat Front Vertical Motor - Driver*

M50P	Seat Front Vertical Motor – Passenger	—	In the passenger compartment, under the passenger seat	*Bottom of Passenger Seat Components (GAJ or Y91)*	*M50P Seat Front Vertical Motor - Passenger*
M51D	Seat Horizontal Motor – Driver	—	In the passenger compartment, under the driver seat	*Bottom of Driver Seat Components*	*M51D Seat Horizontal Motor - Driver*
M51P	Seat Horizontal Motor – Passenger	—	In the passenger compartment, under the passenger seat	• *Bottom of Passenger Seat Components (without GAJ or Y91)* • *Bottom of Passenger Seat Components (GAJ or Y91)*	*M51P Seat Horizontal Motor - Passenger*
M52D	Seat Lumbar Support Horizontal Motor – Driver	—	In the passenger compartment, in the driver seat back	*Back of Driver Seat Components*	*M52D Seat Lumbar Support Horizontal Motor - Driver*
M52P	Seat Lumbar Support Horizontal Motor – Passenger	—	In the passenger compartment, in the passenger seat back	*Back of Passenger Seat Components*	*M52P Seat Lumbar Support Horizontal Motor - Passenger*
M54D	Seat Lumbar Support Vertical Motor – Driver	—	In the passenger compartment, in the driver seat back	—	—
M54P	Seat Lumbar Support Vertical Motor – Passenger	—	In the passenger compartment, in the passenger seat back	—	—
M55D	Seat Rear Vertical Motor – Driver	—	In the passenger compartment, under the driver seat	*Bottom of Driver Seat Components*	*M55D Seat Rear Vertical Motor - Driver*
M55P	Seat Rear Vertical Motor – Passenger	—	In the passenger compartment, under the passenger seat	*Bottom of Passenger Seat Components (GAJ or Y91)*	*M55P Seat Rear Vertical Motor - Passenger*
M56D	Seat Recline Motor – Driver	—	In the passenger compartment, in the driver seat back	*Back of Driver Seat Components*	*M56D Seat Recline Motor - Driver*
M56P	Seat Recline Motor – Passenger	—	In the passenger compartment, in the passenger seat back	*Back of Passenger Seat Components*	*M56P Seat Recline Motor - Passenger*
M60A	Active Grille Air Shutter 1 Motor Module	HP5	Outside the vehicle, near the left front corner of the vehicle, behind the fascia	—	*M60A Active Grille Air Shutter 1 Motor Module*
M60B	Active Grille Air Shutter 2 Motor Module	HP5	Outside the vehicle, near the right front corner of the vehicle, behind the fascia	—	*M60B Active Grille Air Shutter 2 Motor Module*
M63	Sliding Rear Window Motor	A48	In the passenger compartment, mounted the the passenger side of the rear wall, behind the rear seat	—	*M63 Sliding Rear Window Motor*
M64	Starter Motor	—	In the engine compartment, mounted to the rear of the engine block	• *Right Side of Engine Components (L96)* • *Underbody Components (LML)*	• *M64 Starter Motor (L83/L86/L8B)* • *M64 Starter Motor (L96/LC8)* • *M64 Starter Motor (LML)* • *M64 Starter Motor (LV1/LV3)*
M69	Sunroof Motor	CF5	In the passenger compartment, at the front of the roof, above the headliner	—	*M69 Sunroof Motor*
M74D	Window Motor – Driver	A31	In the passenger compartment, in the driver door	*Driver Door Components*	*M74D Window Motor - Driver*
M74LR	Window Motor – Left Rear	Extended or Crew Cab	In the passenger compartment, in the left rear door	*Left Rear Door Components*	*M74LR Window Motor - Left Rear*
M74P	Window Motor – Passenger	A31	In the passenger compartment, in the passenger door	*Passenger Door Components*	*M74P Window Motor - Passenger*

M74RR	Window Motor – Right Rear	Extended or Crew Cab	In the passenger compartment, in the right rear door	*Right Rear Door Components*	*M74RR Window Motor - Right Rear*
M75	Windshield Wiper Motor	—	Outside the vehicle, at the left rear of the engine compartment, below the left lower corner of the windshield	*Left Side of Engine Compartment Components (except LML)*	*M75 Windshield Wiper Motor*
M77D	Outside Rearview Mirror Motor – Driver	DL3, DL8, DPN or DQS	Outside the vehicle, at the front of the driver door, part of the outside rearview mirror	—	*M77D Outside Rearview Mirror Motor - Driver (DL3, DL8, DPN or DQS)*
M77P	Outside Rearview Mirror Motor – Passenger	DL3, DL8, DPN or DQS	Outside the vehicle, at the front of the passenger door, part of the outside rearview mirror	—	*M77P Outside Rearview Mirror Motor - Passenger (DL3, DL8, DPN or DQS)*
M78D	Outside Rearview Mirror Folding Motor – Driver	DL3 or DQS	Outside the vehicle, at the front of the driver door, part of the outside rearview mirror	—	*M78D Outside Rearview Mirror Folding Motor - Driver (DL3 or DQS)*
M78P	Outside Rearview Mirror Folding Motor – Passenger	DL3 or DQS	Outside the vehicle, at the front of the passenger door, part of the outside rearview mirror	—	*M78P Outside Rearview Mirror Folding Motor - Passenger (DL3 or DQS)*
M95L	Assist Step - Left	BRS	Under the vehicle, along the left frame rail, under the driver door	—	• *M95L Assist Step - Left X1 (BRS)* • *M95L Assist Step - Left X2 (BRS)*
M95R	Assist Step - Right	BRS	Under the vehicle, along the right frame rail, under the passenger door	—	• *M95R Assist Step - Right X1 (BRS)* • *M95R Assist Step - Right X2 (BRS)*
P3	Backup Alarm	8S3	Under the rear of the vehicle, mounted on the right frame rail	—	*P3 Backup Alarm*
P9	Driver Information Center Display	—	In the passenger compartment, part of the instrument cluster	—	—
P12	Horn	—	In the engine compartment, at the left side of the radiator core support	*Left Side of Engine Compartment Components (except LML)*	*P12 Horn*
P14	Passenger Air Bag Disabled Indicator	—	In the passenger compartment, at the front of the roof, in the overhead console	*Headliner Components*	*P14 Passenger Air Bag Disabled Indicator*
P16	Instrument Cluster	—	In the passenger compartment, in the driver side of the instrument panel	*Front of Instrument Panel Components*	*P16 Instrument Cluster*
P17	Info Display Module	—	In the passenger compartment, at the center of the instrument panel	*Front of Instrument Panel Components*	• *P17 Info Display Module X1 (IOB)* • *P17 Info Display Module X1* • *P17 Info Display Module X2*
P19AC	Speaker – Subwoofer	UQA	In the passenger compartment, under the instrument panel, at the front of the center console	—	*P19AC Speaker - Subwoofer*
P19AG	Speaker – Left Front Door	—	In the passenger compartment, in the driver door	*Driver Door Components*	*P19AG Speaker - Left Front Door*
P19AH	Speaker – Right Front Door	—	In the passenger compartment, in the passenger door	*Passenger Door Components*	*P19AH Speaker - Right Front Door*
P19AL	Speaker – Left Rear Door	Extended or Crew Cab	In the passenger compartment, in the left rear door	*Left Rear Door Components*	*P19AL Speaker - Left Rear Door*
P19AM	Speaker – Right Rear Door	Extended or Crew Cab	In the passenger compartment, in the right rear door	*Right Rear Door Components*	*P19AM Speaker - Right Rear Door*
P19AN	Speaker – Left Rear Trim Panel	Regular Cab	In the passenger compartment, at the left rear corner of the cab, near the driver seat headrest	—	*P19AN Speaker - Left Rear Trim Panel*

P19AP	Speaker – Right Rear Trim Panel	Regular Cab	In the passenger compartment, at the right rear corner of the cab, near the passenger seat headrest	—	*P19AP Speaker - Right Rear Trim Panel*
P19J	Speaker – Left Instrument Panel	UQ3, UQA or UQG	In the passenger compartment, in the top of the left side of the instrument panel	*Front of Instrument Panel Components*	• *P19J Speaker - Left Instrument Panel (except UQA)* • *P19J Speaker - Left Instrument Panel (UQA)*
P19W	Speaker – Right Instrument Panel	UQ3, UQA or UQG	In the passenger compartment, in the top of the right side of the instrument panel	*Front of Instrument Panel Components*	• *P19W Speaker - Right Instrument Panel* • *P19W Speaker - Right Instrument Panel (UQA)*
P22A	Video Display – 2nd Row	U42	In the passenger compartment, near the center of the headliner	*Headliner Components*	• *P22A Video Display - 2nd Row X1 (U42)* • *P22A Video Display - 2nd Row X2 (U42)*
P43	Collision Alert Indicators	UEU	In the passenger compartment, in the top of the instrument panel, near the windshield, in front of the driver	—	*P43 Collision Alert Indicators*
P45LR	Seat Haptic Movement Motor – Driver Left Rear	UEU or UFL	In the passenger compartment, in the left side of the driver seat cushion	*Bottom of Driver Seat Components*	*P45LR Seat Haptic Movement Motor - Driver Left Rear*
P45RR	Seat Haptic Movement Motor – Driver Right Rear	UEU or UFL	In the passenger compartment, in the right side of the driver seat cushion	*Bottom of Driver Seat Components*	*P45RR Seat Haptic Movement Motor - Driver Right Rear*
Q2	A/C Compressor Clutch	C67 or CJ2	In the engine compartment, at the front of the A/C compressor	*Right Side of Engine Components (L96)*	*Q2 A/C Compressor Clutch*
Q5	Brake Pressure Modulator	—	In the engine compartment, left rear, part of the Brake Control Module	—	—
Q6	Camshaft Position Actuator Solenoid Valve	except LML	In the engine compartment, at the front right side of the engine	—	*Q6 Camshaft Position Actuator Solenoid Valve*
Q8	Control Solenoid Valve Assembly	MYC or MYD	Under the vehicle, inside the transmission assembly	*Automatic Transmission Internal Components (MYC or MYD)*	• *Q8 Control Solenoid Valve Assembly X1 (MYC or MYD)* • *Q8 Control Solenoid Valve Assembly X2 (MYC or MYD)* • *Q8 Control Solenoid Valve Assembly X3 (MYC or MYD)*
Q12	Evaporative Emission Purge Solenoid Valve	except LML	In the engine compartment, at the top middle rear of the engine	*Left Side of Engine Components (L96)*	• *Q12 Evaporative Emission Purge Solenoid Valve (1500)* • *Q12 Evaporative Emission Purge Solenoid Valve (L96/LC8)*
Q13	Evaporative Emission Vent Solenoid Valve	except LML	On the underbody, at the top leftt side of the fuel tank	*Chassis Components (Chassis Cab)*	*Q13 Evaporative Emission Vent Solenoid Valve*
Q14	Exhaust Gas Recirculation Valve	LML	In the engine compartment, on the top left middle of the engine	*Left Side of Engine Components (LML)*	*Q14 Exhaust Gas Recirculation Valve*

Q17A	Fuel Injector 1	—	In the engine compartment, in the cylinder head above cylinder 1	• *Left Side of Engine Components (L96)* • *Right Side of Engine Components (LML)*	• *Q17A Fuel Injector 1 (L96/LC8)* • *Q17A Fuel Injector 1 (LML)*
Q17B	Fuel Injector 2	—	In the engine compartment, in the cylinder head above cylinder 2	• *Left Side of Engine Components (LML)* • *Right Side of Engine Components (L96)*	• *Q17B Fuel Injector 2 (L96/LC8)* • *Q17B Fuel Injector 2 (LML)*
Q17C	Fuel Injector 3	—	In the engine compartment, in the cylinder head above cylinder 3	• *Left Side of Engine Components (L96)* • *Right Side of Engine Components (LML)*	• *Q17C Fuel Injector 3 (L96/LC8)* • *Q17C Fuel Injector 3 (LML)*
Q17D	Fuel Injector 4	—	In the engine compartment, in the cylinder head above cylinder 4	• *Right Side of Engine Components (L96)* • *Left Side of Engine Components (LML)*	• *Q17D Fuel Injector 4 (L96/LC8)* • *Q17D Fuel Injector 4 (LML)*
Q17E	Fuel Injector 5	—	In the engine compartment, in the cylinder head above cylinder 5	• *Right Rear Side of the Engine Components (LML)* • *Left Side of Engine Components (L96)*	• *Q17E Fuel Injector 5 (L96/LC8)* • *Q17E Fuel Injector 5 (LML)*
Q17F	Fuel Injector 6	—	In the engine compartment, in the cylinder head above cylinder 6	• *Right Side of Engine Components (L96)* • *Left Side of Engine Components (LML)*	• *Q17F Fuel Injector 6 (L96/LC8)* • *Q17F Fuel Injector 6 (LML)*
Q17G	Fuel Injector 7	—	In the engine compartment, in the cylinder head above cylinder 7	• *Left Side of Engine Components (L96)* • *Right Rear Side of the Engine Components (LML)*	• *Q17G Fuel Injector 7 (L96/LC8)* • *Q17G Fuel Injector 7 (LML)*
Q17H	Fuel Injector 8	—	In the engine compartment, in the cylinder head above cylinder 8	• *Right Side of Engine Components (L96)* • *Left Side of Engine Components (LML)*	• *Q17H Fuel Injector 8 (L96/LC8)* • *Q17H Fuel Injector 8 (LML)*
Q18A	Fuel Pressure Regulator 1	LML	In the engine compartment, mounted on top of the fuel injection pump	*Top of the Engine Components (LML)*	*Q18A Fuel Pressure Regulator 1*
Q18B	Fuel Pressure Regulator 2	LML	In the engine compartment	*Top of the Engine Components (LML)*	*Q18B Fuel Pressure Regulator 2 (LML)*
Q23	Line Pressure Control Solenoid Valve	MW7	Under the vehicle, inside the transmission assembly	—	—
Q27A	Pressure Control Solenoid Valve 1	MW7, MYC or MYD	Under the vehicle, inside the transmission assembly	—	—
Q27B	Pressure Control Solenoid Valve 2	MW7, MYC or MYD	Under the vehicle, inside the transmission assembly	—	—
Q27C	Pressure Control Solenoid Valve 3	MYC or MYD	Under the vehicle, inside the transmission assembly	—	—

Q27D	Pressure Control Solenoid Valve 4	MYC or MYD	Under the vehicle, inside the transmission assembly	—	—
Q27E	Pressure Control Solenoid Valve 5	MYC or MYD	Under the vehicle, inside the transmission assembly	—	—
Q32A	Shift Solenoid Valve 1	MW7, MYC or MYD	Under the vehicle, inside the transmission assembly	—	—
Q32B	Shift Solenoid Valve 2	MW7, MYC or MYD	Under the vehicle, inside the transmission assembly	—	—
Q32C	Shift Solenoid Valve 3	MW7	Under the vehicle, inside the transmission assembly	—	—
Q37LF	Shock Absorber Actuator – Left Front	Z95	Under the vehicle, part of the shock absorber	*Front Chassis Components (1500)*	*Q37LF Shock Absorber Actuator - Left Front*
Q37LR	Shock Absorber Actuator – Left Rear	Z95	Under the vehicle, part of the shock absorber	*Rear Chassis Components (except Chassis Cab or LML)*	*Q37LR Shock Absorber Actuator - Left Rear*
Q37RF	Shock Absorber Actuator – Right Front	Z95	Under the vehicle, part of the shock absorber	*Front Chassis Components (1500)*	*Q37RF Shock Absorber Actuator - Right Front*
Q37RR	Shock Absorber Actuator – Right Rear	Z95	Under the vehicle, part of the shock absorber	*Rear Chassis Components (except Chassis Cab or LML)*	*Q37RR Shock Absorber Actuator - Right Rear*
Q38	Throttle Body	—	In the engine compartment, at the top of the engine, mounted to the intake manifold inlet	• *Right Side of Engine Components (L96)* • *Right Side of Engine Components (LML)*	• *Q38 Throttle Body (1500)* • *Q38 Throttle Body (L96/LC8)* • *Q38 Throttle Body (LML)*
Q39A	Torque Converter Clutch Pressure Control Solenoid Valve	MW7, MYC or MYD	Under the vehicle, inside the transmission assembly	—	—
Q41	Turbocharger Vane Position Control Solenoid Valve	LML	In the engine compartment, at the top of the engine	*Right Rear Side of the Engine Components (LML)*	*Q41 Turbocharger Vane Position Control Solenoid Valve*
Q43	Valve Lifter Oil Manifold Assembly	1500	In the engine compartment, mounted in the valve lifter valley below the intake manifold	—	*Q43 Valve Lifter Oil Manifold Assembly*
Q44	Engine Oil Pressure Control Solenoid Valve	1500	In the engine compartment, at the front of the engine, behind the front cover	—	*Q44 Engine Oil Pressure Control Solenoid Valve*
Q46	A/C Compressor Solenoid Valve	C67 or CJ2	In the front of the engine compartment, part of the compressor assembly	*Right Side of Engine Components (L96)*	*Q46 A/C Compressor Solenoid Valve*
Q47	Exhaust Gas Recirculation Cooler Bypass Solenoid Valve	LML	In the engine compartment, on the top right rear of the engine	*Right Rear Side of the Engine Components (LML)*	*Q47 Exhaust Gas Recirculation Cooler Bypass Solenoid Valve*
Q61	Reductant Injector	LML	Under the vehicle, attached to the exhaust pipe, near the rear of the catalytic converter	*Underbody Components (LML)*	*Q61 Reductant Injector*
Q62	Reductant Purge Solenoid Valve	LML	Under the vehicle, above the reductant tank	—	—
Q67	Exhaust Aftertreatment Fuel Injector	LML	In the engine compartment, on the right rear side of the engine, above fuel injector 5	*Right Rear Side of the Engine Components (LML)*	*Q67 Exhaust Aftertreatment Fuel Injector*
Q68A	CNG Cut-Off Solenoid Valve 1	LC8	Under the vehicle, part of the CNG pressure regulator	—	*Q68A CNG Cut-Off Solenoid Valve 1 (LC8)*
Q68B	CNG Cut-Off Solenoid Valve 2	LC8	In the CNG tank cover, part of the CNG Fuel Tank Assembly	—	*Q68B CNG Cut-Off Solenoid Valve 2 (LC8)*

Q70A	Alternative Fuel Injector 1	LC8	In the engine compartment, near the left side engine rocker cover above cylinder number 1	—	*Q70A Alternative Fuel Injector 1 (LC8)*
Q70B	Alternative Fuel Injector 2	LC8	In the engine compartment, near the right side engine rocker cover above cylinder number 2	—	*Q70B Alternative Fuel Injector 2 (LC8)*
Q70C	Alternative Fuel Injector 3	LC8	In the engine compartment, near the left side engine rocker cover above cylinder number 3	—	*Q70C Alternative Fuel Injector 3 (LC8)*
Q70D	Alternative Fuel Injector 4	LC8	In the engine compartment, near the right side engine rocker cover above cylinder number 4	—	*Q70D Alternative Fuel Injector 4 (LC8)*
Q70E	Alternative Fuel Injector 5	LC8	In the engine compartment, near the left side engine rocker cover above cylinder number 5	—	*Q70E Alternative Fuel Injector 5 (LC8)*
Q70F	Alternative Fuel Injector 6	LC8	In the engine compartment, near the right side engine rocker cover above cylinder number 6	—	*Q70F Alternative Fuel Injector 6 (LC8)*
Q70G	Alternative Fuel Injector 7	LC8	In the engine compartment, near the left side engine rocker cover above cylinder number 7	—	*Q70G Alternative Fuel Injector 7 (LC8)*
Q70H	Alternative Fuel Injector 8	LC8	In the engine compartment, near the right side engine rocker cover above cylinder number 8	—	*Q70H Alternative Fuel Injector 8 (LC8)*
Q77A	Transmission Control Solenoid Valve 1	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	*Q77A Transmission Control Solenoid Valve 1 (M5U)*
Q77B	Transmission Control Solenoid Valve 2	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	*Q77B Transmission Control Solenoid Valve 2 (M5U)*
Q77C	Transmission Control Solenoid Valve 3	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	*Q77C Transmission Control Solenoid Valve 3 (M5U)*
Q77D	Transmission Control Solenoid Valve 4	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	*Q77D Transmission Control Solenoid Valve 4 (M5U)*
Q77E	Transmission Control Solenoid Valve 5	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	*Q77E Transmission Control Solenoid Valve 5 (M5U)*
Q77F	Transmission Control Solenoid Valve 6	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	*Q77F Transmission Control Solenoid Valve 6 (M5U)*
Q77G	Transmission Control Solenoid Valve 7	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	*Q77G Transmission Control Solenoid Valve 7 (M5U)*
Q77H	Transmission Control Solenoid Valve 8	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	*Q77H Transmission Control Solenoid Valve 8 (M5U)*
Q77J	Transmission Control Solenoid Valve 9	M5U	Under the vehicle, inside the transmission assembly	*Automatic Transmission Valve Body Components (M5U)*	*Q77J Transmission Control Solenoid Valve 9 (M5U)*
R6A	Terminating Resistor – High Speed Bus	—	Under the vehicle, near the left frame rail, above the spare tire, taped in the chassis harness	*Chassis Components (Chassis Cab)*	• *R6A Terminating Resistor - High Speed Bus (except LC8)* • *R6A Terminating Resistor - High Speed Bus (LC8)*
R12	Power Take-Off Switch Diode	PTO	In the passenger compartment, behind the middle of the instrument panel	—	—
S2	Transmission Manual Shift Switch	M5U, MW7, MYC or MYD	In the passenger compartment, part of the transmission shift lever	—	—

S3	Transmission Shift Lever	M5U, MW7, MYC or MYD	In the passenger compartment, mounted to the steering column	—	*S3 Transmission Shift Lever (M5U, MW7, MYC or MYD)*
S5	Center Console Compartment Lamp Switch	D07	In the passenger compartment, under the center console compartment lid	—	*S5 Center Console Compartment Lamp Switch (D07)*
S12	Dome Lamp Switch	—	In the passenger compartment, near the center of the headliner, part of the dome lamp	—	*S12 Dome Lamp Switch*
S13D	Door Lock Switch – Driver	—	In the passenger compartment, in the driver door handle trim panel	*Driver Door Components*	• *S13D Door Lock Switch - Driver (A31)* • *S13D Door Lock Switch - Driver (-A31)*
S13P	Door Lock Switch – Passenger	—	In the passenger compartment, in the passenger door handle trim panel	*Passenger Door Components*	• *S13P Door Lock Switch - Passenger (-A31)* • *S13P Door Lock Switch - Passenger (A31)*
S15	Manual Service Disconnect	HP5	part of the Hybrid/EV battery pack	—	• *S15 Manual Service Disconnect X2* • *S15 Manual Service Disconnect X3* • *S15 Manual Service Disconnect X4* • *S15 Manual Service Disconnect X5* • *S15 Manual Service Disconnect X6* • *S15 Manual Service Disconnect X7* • *S15 Manual Service Disconnect X8*
S16	Driver Information Center Switch	—	In the passenger compartment, in the center of the I/P, between the instrument cluster and the air vents	—	—
S25	Garage Door Opener	UG1	In the passenger compartment, in the overhead console	*Headliner Components*	*S25 Garage Door Opener*
S30	Headlamp Switch	—	In the passenger compartment, left of the steering column	*Front of Instrument Panel Components*	*S30 Headlamp Switch*
S31D	Seat Heating and Cooling Switch – Driver	KA1 or KB6	In the passenger compartment, on driver side of the HVAC controls	*Front of Instrument Panel Components*	*S31D Seat Heating and Cooling Switch - Driver*
S31P	Seat Heating and Cooling Switch – Passenger	KA1 or KB6	In the passenger compartment, on passenger side of the HVAC controls	*Front of Instrument Panel Components*	*S31P Seat Heating and Cooling Switch - Passenger*
S33	Horn Switch	—	In the passenger compartment, in the center of the steering wheel, behind the driver side air bag	—	*S33 Horn Switch*
S39	Ignition Switch	—	In the passenger compartment, behind the steering wheel, on the right side of the steering column	—	*S39 Ignition Switch*
S40	Passenger Air Bag Disable Switch	C99	In the passenger compartment, in the right instrument panel closeout	—	*S40 Passenger Air Bag Disable Switch*
S47D	Seat Memory Switch – Driver	A45	In the passenger compartment, on the driver door panel above the driver door switch assembly	—	*S47D Seat Memory Switch - Driver*

S48A	Multifunction Switch – Instrument Panel	—	In the passenger compartment, near the center of the instrument panel	*Front of Instrument Panel Components*	• *S48A Multifunction Switch - Instrument Panel X1* • *S48A Multifunction Switch - Instrument Panel X2* • *S48A Multifunction Switch - Instrument Panel X2 (LC8)*
S51	Telematics Button Assembly	UE1	In the passenger compartment, part of the inside rearview mirror	—	—
S52	Outside Rearview Mirror Switch	DL3, DL8, DPN or DQS	In the passenger compartment, on the driver door trim panel	*Driver Door Components*	• *S52 Outside Rearview Mirror Switch (A45)* • *S52 Outside Rearview Mirror Switch (-A45)*
S63	Roof Beacon Switch	TRW	In the passenger compartment, behind the overhead console, near the top	—	*S63 Roof Beacon Switch*
S64D	Seat Adjuster Switch – Driver	—	In the passenger compartment, mounted to the outboard side of the driver seat cushion	*Back of Driver Seat Components*	• *S64D Seat Adjuster Switch - Driver X1* • *S64D Seat Adjuster Switch - Driver X2*
S64P	Seat Adjuster Switch – Passenger	—	In the passenger compartment, mounted to the outboard side of the passenger seat cushion	*Front of Passenger Seat Components*	• *S64P Seat Adjuster Switch - Passenger X1* • *S64P Seat Adjuster Switch - Passenger X2*
S68	Sliding Rear Window Switch	A48	In the passenger compartment, in the overhead console	—	*S68 Sliding Rear Window Switch*
S70E	Steering Wheel Controls Switch – Radio Presets	UK3	In the passenger compartment, on the left rear side of the steering wheel	—	*S70E Steering Wheel Controls Switch - Radio Presets (UK3)*
S70F	Steering Wheel Controls Switch – Radio Volume	UK3	In the passenger compartment, on the right rear side of the steering wheel	—	*S70F Steering Wheel Controls Switch - Radio Volume (UK3)*
S70L	Steering Wheel Controls Switch – Left	—	In the passenger compartment, on the left side of the steering wheel	—	*S70L Steering Wheel Controls Switch - Left (UK3)*
S70R	Steering Wheel Controls Switch – Right	UK3	In the passenger compartment, on the right side of the steering wheel	—	*S70R Steering Wheel Controls Switch - Right (UK3)*
S72	Sunroof Switch	CF5	In the passenger compartment, at the front of the headliner, in the overhead console	*Headliner Components*	*S72 Sunroof Switch*
S74	Tow/Haul Mode Switch	M5U, MW7, MYC or MYD	In the passenger compartment, part of the automatic transmission shift lever	—	—
S76	Trailer Brake Control Switch	JL1	In the passenger compartment, lower left side of the instrument panel	*Front of Instrument Panel Components*	*S76 Trailer Brake Control Switch*
S77	Transfer Case Shift Control Switch	NQF or NQH	In the passenger compartment, left side of the instrument panel	*Front of Instrument Panel Components*	*S77 Transfer Case Shift Control Switch (NQF/NQH)*
S77	Transfer Case Shift Control Switch	NQG	Under the vehicle, on the top of the transfer case	—	*S77 Transfer Case Shift Control Switch (NQG)*

S78	Turn Signal/Multifunction Switch	—	In the passenger compartment, on the left side of the steering column	—	• *S78 Turn Signal Multifunction Switch X1* • *S78 Turn Signal Multifunction Switch X2*
S79D	Window Switch – Driver	A31	In the passenger compartment, behind the driver door trim panel, center of the door	*Driver Door Components*	*S79D Window Switch - Driver*
S79LR	Window Switch – Left Rear	Extended or Crew Cab	In the passenger compartment, at the center of the left rear door, on the door trim panel	*Left Rear Door Components*	*S79LR Window Switch - Left Rear*
S79P	Window Switch – Passenger	A31	In the passenger compartment, on the passenger door trim panel, center of the door	*Passenger Door Components*	• *S79P Window Switch - Passenger (A31 without A45)* • *S79P Window Switch - Passenger X1* • *S79P Window Switch - Passenger X2*
S79RR	Window Switch – Right Rear	Extended or Crew Cab	In the passenger compartment, on the right rear door trim panel, center of the door	*Right Rear Door Components*	*S79RR Window Switch - Right Rear*
S135	Rollover Protection Disable Switch	C9I	In the passenger compartment, in the left side of the lower glove box	*Rear of Instrument Panel Components*	*S135 Rollover Protection Disable Switch*
S148L	Assist Step Kick Switch – Left	BRS	Under the vehicle, along the left frame rail, under the driver door part of the power assist step	—	—
S148R	Assist Step Kick Switch – Right	BRS	Under the vehicle, along the right frame rail, under the passenger door part of the power assist step	—	—
T1	Accessory DC/AC Power Inverter Module	KI4 or KI5	In the instrument panel, right side of the steering column	*Rear of Instrument Panel Components*	• *T1 Accessory DC/AC Power Inverter Module (KI4)* • *T1 Accessory DC/AC Power Inverter Module (KI5)*
T3	Audio Amplifier	UQA or UQG	In the rear passenger compartment, mounted behind the rear seat, below the rear window	—	• *T3 Audio Amplifier X1 (UQA/UQG without D07)* • *T3 Audio Amplifier X1 (UQA/UQG with D07)* • *T3 Audio Amplifier X2* • *T3 Audio Amplifier X3* • *T3 Audio Amplifier X4*
T4G	Cellular Phone, Navigation, and Digital Radio Antenna	—	Outside the vehicle, at the front left of the roof	• *Front of Vehicle (Chevrolet) Components* • *Front of Vehicle (GMC) Components*	• *T4G Cellular Phone, Navigation, and Digital Radio Antenna X4 (U2K or U2M)* • *T4G Cellular Phone, Navigation, and Digital Radio Antenna X5 (UE1 without CV3)*
T4M	Radio Antenna	—	Outside the vehicle, at the right rear of the hood	• *Front of Vehicle (Chevrolet) Components* • *Front of Vehicle (GMC) Components*	*T4M Radio Antenna*
T4S	Wireless Communication Antenna – Bluetooth	—	Outside the vehicle, at the rear of the right front fender	—	—

T8A	Ignition Coil 1	except LML	In the engine compartment, at the top of the engine	*Left Side of Engine Components (L96)*	• *T8A Ignition Coil 1 (1500)* • *T8A Ignition Coil 1 (L96/LC8)*
T8B	Ignition Coil 2	except LML	In the engine compartment, at the top of the engine	*Right Side of Engine Components (L96)*	• *T8B Ignition Coil 2 (1500)* • *T8B Ignition Coil 2 (L96/LC8)*
T8C	Ignition Coil 3	except LML	In the engine compartment, at the top of the engine	*Left Side of Engine Components (L96)*	• *T8C Ignition Coil 3 (1500)* • *T8C Ignition Coil 3 (L96/LC8)*
T8D	Ignition Coil 4	except LML	In the engine compartment, at the top of the engine	*Right Side of Engine Components (L96)*	• *T8D Ignition Coil 4 (1500)* • *T8D Ignition Coil 4 (L96/LC8)*
T8E	Ignition Coil 5	except LML	In the engine compartment, at the top of the engine	*Left Side of Engine Components (L96)*	• *T8E Ignition Coil 5 (1500)* • *T8E Ignition Coil 5 (L96/LC8)*
T8F	Ignition Coil 6	except LML	In the engine compartment, at the top of the engine	*Right Side of Engine Components (L96)*	• *T8F Ignition Coil 6 (1500)* • *T8F Ignition Coil 6 (L96/LC8)*
T8G	Ignition Coil 7	L83, L86, L96 or LC8	In the engine compartment, at the top of the engine	*Left Side of Engine Components (L96)*	• *T8G Ignition Coil 7 (1500)* • *T8G Ignition Coil 7 (L96/LC8)*
T8H	Ignition Coil 8	L83, L86, L96 or LC8	In the engine compartment, at the top of the engine	*Right Side of Engine Components (L96)*	• *T8H Ignition Coil 8 (1500)* • *T8H Ignition Coil 8 (L96/LC8)*
T12	Automatic Transmission Assembly	M5U, MW7, MYC or MYD	Under the vehicle, mounted to the rear of the engine	—	—
T15	Navigation Antenna Signal Splitter	IO6 with UE1	In the passenger compartment, behind the instrument panel	—	• *T15 Navigation Antenna Signal Splitter X1 (IO6 with UE1)* • *T15 Navigation Antenna Signal Splitter X2 (IO6 with UE1)* • *T15 Navigation Antenna Signal Splitter X3 (IO6 with UE1)*
T22	Mobile Device Wireless Charger Module	K4C	In the passenger compartment, forward of center, in the floor console bin lid.	—	*T22 Mobile Device Wireless Charger Module*
W1	Blunt Cut – Camper Trailer Provision	UY2	Under the rear of the vehicle	—	—
W11	Blunt Cut – Roof Beacon Provision	TRW	In the passenger compartment, above the headliner	—	—
W24	Blunt Cut – Trailer Brakes Provision	Z82 with E29 or Z82 without JL1	In the passenger compartment, under left side of the instrument panel	—	—
X21	Manual Service Disconnect Receptacle	HP5	part of the Hybrid/EV battery pack	—	*X21 Manual Service Disconnect Receptacle*

X50A	Fuse Block – Underhood	—	In the engine compartment, top left near the inner fender	• *Left Side of Engine Compartment Components (except LML)* • *Left Side of Engine Compartment Components (LML)* • *Engine Compartment Left Harness Routing*	Electrical Center Identification Views
X50D	Fuse Block – Battery	—	In the engine compartment, on top of the battery	—	Electrical Center Identification Views
X50E	Fuse Block – Battery Auxiliary	K4B, K4D or LML	In the engine compartment, on top of the auxiliary battery	—	Electrical Center Identification Views
X51L	Fuse Block – Instrument Panel Left	—	In the passenger compartment, left side of the instrument panel, behind side trim panel	*Passenger Compartment Left Harness Routing*	Electrical Center Identification Views
X51R	Fuse Block – Instrument Panel Right	—	In the passenger compartment, right side of the instrument panel, behind side trim panel	• *Passenger Compartment Left Harness Routing* • *Passenger Compartment Right Harness Routing*	Electrical Center Identification Views
X55J	Fuse Holder – Generator	KHB or KW5	In the engine compartment, at the left front of the engine	—	—
X55VA	Fuse Holder 1 – Alternative Fuel	LC8	In the engine compartment, at the left front, mounted to the CGM module bracket	—	—
X55VB	Fuse Holder 2 – Alternative Fuel	LC8	In the engine compartment, at the left front, mounted to the CGM module bracket	—	—
X61A	Junction Block – Instrument Panel	except E29	In the passenger compartment, under the instrument panel, left of the brake pedal	*Passenger Compartment Left Harness Routing*	Electrical Center Identification Views
X80D	Accessory Power Receptacle – Center Console Compartment	—	In the passenger compartment, between the driver and passenger seat, in the center console	—	*X80D Accessory Power Receptacle - Center Console Compartment*
X80E	Accessory Power Receptacle – Center Seat	except D07	In the passenger compartment, at the rear of the center console	—	*X80E Accessory Power Receptacle - Center Seat (except D07)*
X80G	Accessory Power Receptacle – Instrument Panel	except D07	In the passenger compartment, on top of the floor console, below the info display on the center stack	—	*X80G Accessory Power Receptacle - Instrument Panel*
X80J	Accessory Power Receptacle – Instrument Panel 1	D07	In the passenger compartment, at the left center of the instrument panel	• *Front of Instrument Panel Components* • *Rear of Instrument Panel Components*	*X80J Accessory Power Receptacle - Instrument Panel 1*
X80K	Accessory Power Receptacle – Instrument Panel 2	D07	In the passenger compartment, at the right center of the instrument panel	*Front of Instrument Panel Components*	*X80K Accessory Power Receptacle - Instrument Panel 2*
X80L	Accessory Power Receptacle – Center Console Rear	D07	In the passenger compartment, at the rear of the floor center console	—	*X80L Accessory Power Receptacle - Center Console Rear*
X81	Accessory Power Receptacle – 110V AC	KI4	In the passenger compartment, right front of the center console storage bin	• *Rear of Instrument Panel Components* • *Front of Instrument Panel Components*	• *X81 Accessory Power Receptacle - 110V AC X1* • *X81 Accessory Power Receptacle - 110V AC X2*

X81B	Accessory Power Receptacle – 220V AC	KI5	In the passenger compartment, right front of the center console storage bin	—	• *X81B Accessory Power Receptacle - 220V AC X1* • *X81B Accessory Power Receptacle - 220V AC X2*
X82	Audio/Video Input Adapter	U42	In the passenger compartment, at rear of the center console	—	• *X82 Audio/Video Input Adapter X1 (U42)* • *X82 Audio/Video Input Adapter X2 (U42)*
X83	Auxiliary Audio Input	—	In the passenger compartment, in the center console storage compartment	—	• *X83 Auxiliary Audio Input* • *X83 Auxiliary Audio Input X2*
X84	Data Link Connector	—	In the passenger compartment, at the bottom of the driver side of the instrument panel	*Front of Instrument Panel Components*	*X84 Data Link Connector*
X85	Steering Wheel Air Bag Coil	—	In the passenger compartment, behind the steering wheel	—	• *X85 Steering Wheel Air Bag Coil* • *X85 Steering Wheel Air Bag Coil X1* • *X85 Steering Wheel Air Bag Coil X2* • *X85 Steering Wheel Air Bag Coil X3* • *X85 Steering Wheel Air Bag Coil X4 (UVD)* • *X85 Steering Wheel Air Bag Coil X5 (UVD)*
X88	Trailer Connector	Z82	On the vehicle exterior, at the rear of the vehicle, left of the license plate	*Rear of Vehicle Components*	• *X88 Trailer Connector (Z82 without 8S3 or UY2)* • *X88 Trailer Connector (UY2)*
X92	USB Receptacle	—	In the passenger compartment, left front of the center console storage bin	*Front of Instrument Panel Components*	• *X92 USB Receptacle* • *X92 USB Receptacle X2 (D07)*
X96	Alternative Fuel System Data Connector	LC8	In the passenger compartment, at the bottom of the driver side of the instrument panel, clipped to the Data Link Connector mount	—	*X96 Alternative Fuel System Data Connector (LC8)*
X100	Front Bumper Harness To Forward Lamp Harness (16 Cavities)	T3U or UD5	In the engine compartment, near the center of the lower radiator support	• *Front Bumper Harness Routing* • *Engine Compartment Right Harness Routing*	*X100 Forward Lamp Harness to Front Bumper Harness (UD5)*
X101	Engine Chassis Harness to Engine Harness (30 Cavities)	LML	In the engine compartment, at the top of the engine	—	*X101 Engine Chassis Harness to Engine Harness (LML)*
X102	Engine Harness To Engine Cooling Fan Jumper Harness (5 Cavities)	LML	In the engine compartment, at the lower left of the cooling fan housing	*Engine Compartment Left Harness Routing*	*X102 Engine Harness to Engine Cooling Fan Jumper Harness (LML)*
X105	Engine Harness To Forward Lamp Harness (6 Cavities)	1500	In the engine compartment, near lower left of the engine block, rear of the battery carrier	—	• *X105 Engine Harness to Forward Lamp Harness (except L8B)* • *X105 Engine Harness to Forward Lamp Harness (L8B)*

X110	Forward Lamp Harness to Headlamp – Left Harness (8 Cavities)	—	In the engine compartment, at the rear of the left headlamp assembly	—	• *X110 Forward Lamp Harness to Front Bumper Harness (Heavy Duty)* • *X110 Forward Lamp Harness to Front Bumper Harness (Light Duty)*
X111	Engine Harness To Front Axle Harness (4 Cavities)	NQF, NQG or NQH	Under the vehicle, near the front axle	• *Engine Compartment Left Harness Routing* • *Left Side of Engine Harness Routing (L96)*	*X111 Front Axle Harness to Engine Harness*
X113	Engine Jumper Harness to Engine Harness (12 Cavities)	LML	In the engine compartment, at the top of the engine	—	*X113 Engine Jumper Harness to Engine Harness*
X115	Engine Harness to Body Harness (48 Cavities)	—	In the front of the engine compartment, near the upper left of the radiator support	• *Left Side of Engine Harness Routing (L96)* • *Engine Compartment Left Harness Routing*	*X115 Engine Harness to Body Harness*
X116	Engine Harness to Body Harness	HP5	In the front of the engine compartment, near the upper left of the radiator support	—	*X116 Engine Harness to Body Harness*
X119	Body Harness To Brake Clutch Jumper Harness (16 Cavities)	except E29	In the passenger compartment, left side of the instrument panel	—	*X119 Body Harness to Brake Clutch Harness (except E29)*
X119	Brake Clutch Jumper Harness to Body Harness (16 Cavities)	E29	In the passenger compartment, left side of the instrument panel	—	*X119 Body Harness to Brake Clutch Harness (E29)*
X120	Forward Lamp Harness to Headlamp – Right Harness (8 Cavities)	—	In the engine compartment, at the rear of the right headlamp assembly	—	• *X120 Forward Lamp Harness to Front Bumper Harness (Heavy Duty)* • *X120 Forward Lamp Harness to Front Bumper Harness (Light Duty)*
X125	Engine Harness To Chassis Harness (20 Cavities)	—	Under the vehicle, on the top left of the frame rail, near the left front body mount	• *Engine Compartment Left Harness Routing* • *Left Side of Engine Harness Routing (L96)*	*X125 Engine Harness to Chassis Harness*
X132	Aero Shutter Jumper Harness to Forward Lamp Harness	HP5	At the front of the vehicle, at center, behind upper grille at hood latch	—	*X132 Aero Shutter Jumper Harness to Forward Lamp Harness*
X133	Battery Harness to Power Steering Jumper Harness (2 Cavities)	1500	Under the vehicle, clipped to the steering gear	—	*X133 Battery Cable Jumper to Power Steering Jumper Harness (1500)*
X134	Chassis Harness to Power Steering Jumper Harness (12 Cavities)	1500	Under the vehicle, clipped to the steering gear	*Chassis Harness Routing*	*X134 Chassis Harness to Ignition Coil Harness*
X135	Fuel Pressure Sensor Jumper Harness to Engine Harness (3 Cavities)	LML	In the engine compartment, at the top rear of the engine	—	*X135 Fuel Pressure Sensor Jumper Harness to Engine Harness*
X138	Chassis Harness To Body Harness (40 Cavities)	—	In the rear of the engine compartment, near the rear of the under hood fuse block	• *Chassis Cab Harness Routing* • *Chassis Harness Routing*	*X138 Chassis Harness to Body Harness*

X150	Body Harness To Forward Lamp Harness (23 Cavities)	—	In the engine compartment, above the right front wheel well	*Engine Compartment Right Harness Routing*	• *X150 Body Harness to Forward Lamp Harness (Extended Cab)* • *X150 Body Harness to Forward Lamp Harness (Regular Cab)*
X154	Engine Harness to Camshaft Position Sensor Jumper Harness (8 Cavities)	1500	In the engine compartment, near the fuel rail	—	*X154 Engine Harness to Camshaft Position Sensor Jumper Harness*
X158	Auxiliary Battery to Engine Harness (6 Cavities)	K4B or K4D	At the left front of the engine compartment	—	*X158 Auxilary Battery Harness to Engine Harness (K4B or K4D)*
X159	Engine Harness to Camshaft Position Sensor Jumper Harness (5 Cavities)	L96 or LC8	In the engine compartment, near the fuel rail	—	*X159 Engine Harness to Camshaft Position Sensor Jumper Harness (L96 or LC8)*
X160	Engine Harness to Odd Fuel Injector Harness (12 Cavities)	1500	In the engine compartment, rear of the engine near the top center	—	*X160 Engine Harness to Odd Fuel Injector Harness (1500)*
X161	Engine Harness to Even Fuel Injector Harness (12 Cavities)	1500	In the engine compartment, rear of the engine near the top right	—	• *X161 Engine Harness to Even Fuel Injector Harness (LV1/LV3)* • *X161 Engine Harness to Even Fuel Injector Harness (L83/L86/L8B)*
X170	Engine Harness to Ignition Coil (Odd) Harness (8 Cavities)	L96 or LC8	On the engine, near the odd ignition coils	—	*X170 Engine Harness to Ignition Coil Harness*
X171	Engine Harness to Ignition Coil (Even) Harness (8 Cavities)	L96 or LC8	On the engine, near the even ignition coils	*Left Side of Engine Harness Routing (L96)*	*X171 Engine Harness to Ignition Coil Harness*
X173	Camshaft Jumper to Oil Pressure Control Valve (2 Cavities)	1500	In the engine compartment, at the front of the engine	—	—
X175	Engine Harness to Transmission Harness (36 Cavities)	M5U	Under the vehicle, at the rear of the transmission assembly	—	• *X175 Engine Harness to Engine Harness (L83/L86)* • *X175 Engine Harness to Transmission Harness (L8B)*
X175	Engine Harness to Transmission Harness (23 Cavities)	LML	Under the vehicle, at the rear of the transmission assembly	—	*X175 Engine Harness to Chassis Harness (LML)*
X176	Transmission Harness to Valve Body Harness (22 Cavities)	M5U	Under the vehicle, inside the transmission assembly	—	*X176 Transmission Harness to Transmission Harness (M5U)*
X177	Transmission Harness to Speed Sensor Harness (22 Cavities)	M5U	In the engine compartment, at the right front of the engine compartment, near the mass airflow sensor	—	*X177 Transmission Harness to Transmission Harness (M5U)*
X178	CNG Rear Harness to CNG Front Harness (16 Cavities)	LC8	In the engine compartment, to the left of the engine, below the fuse block, attached to the power steering hoses	—	*X178 CNG Engine Harness to CNG Rear Harness (LC8)*
X179	Engine Harness to CNG Front Harness (5 Cavities)	LC8	In the engine compartment, at the right front of the engine compartment, near the mass airflow sensor	—	*X179 Engine Harness to CNG Engine Harness (LC8)*
X181	Engine Harness to CNG Injector Harness (2 Cavities)	LC8	In the engine compartment, near cylinder 1 fuel injector	—	*X181 Engine Harness to CNG Injector Harness (LC8)*
X182	Engine Harness to CNG Injector Harness (2 Cavities)	LC8	In the engine compartment, near cylinder 2 fuel injector	—	*X182 Engine Harness to CNG Injector Harness (LC8)*

X183	Engine Harness to CNG Injector Harness (2 Cavities)	LC8	In the engine compartment, near cylinder 3 fuel injector	—	*X183 Engine Harness to CNG Injector Harness (LC8)*
X184	Engine Harness to CNG Injector Harness (2 Cavities)	LC8	In the engine compartment, near cylinder 4 fuel injector	—	*X184 Engine Harness to CNG Injector Harness (LC8)*
X185	Engine Harness to CNG Injector Harness (2 Cavities)	LC8	In the engine compartment, near cylinder 5 fuel injector	—	*X185 Engine Harness to CNG Injector Harness (LC8)*
X186	Engine Harness to CNG Injector Harness (2 Cavities)	LC8	In the engine compartment, near cylinder 6 fuel injector	—	*X186 Engine Harness to CNG Injector Harness (LC8)*
X187	Engine Harness to CNG Injector Harness (2 Cavities)	LC8	In the engine compartment, near cylinder 7 fuel injector	—	*X187 Engine Harness to CNG Injector Harness (LC8)*
X188	Engine Harness to CNG Injector Harness (2 Cavities)	LC8	In the engine compartment, near cylinder 8 fuel injector	—	*X188 Engine Harness to CNG Injector Harness (LC8)*
X189	CNG Injector Harness to CNG Front Harness (20 Cavities)	LC8	In the engine compartment, to the left of the engine	—	*X189 CNG Injector Harness to CNG Engine Harness (LC8)*
X190	CNG Front Harness to CNG Injector Harness (20 Cavities)	LC8	In the engine compartment, to the left of the engine	—	*X190 CNG Engine Harness to CNG Injector Harness (LC8)*
X191	Engine Harness to Power Take-Off Jumper Harness (16 Cavities)	PTO	At the right rear of the engine compartment, near the frame	—	*X191 Engine Harness to Power Take-Off Jumper Harness (PTO)*
X199	CNG Front Harness to CNG Instrument Panel Harness (12 Cavities)	LC8	In the engine compartment, to the left of the engine	—	*X199 CNG Engine Harness to CNG Instrument Panel Harness (LC8)*
X201	Steering Column Harness to Instrument Panel Harness (42 Cavities)	except E29	In the passenger compartment, behind the left side of the instrument panel, near the steering column	—	*X201 Steering Column Harness to Instrument Panel Harness (except E29)*
X201	Steering Column Harness to Instrument Panel Harness (12 Cavities)	E29	In the passenger compartment, behind the left side of the instrument panel, near the steering column	—	*X201 Steering Column Harness to Instrument Panel Harness (E29)*
X205	Instrument Panel Harness to Passenger Air Bag Jumper Harness (4 Cavities)	—	In the passenger compartment, behind the right side of the instrument panel near the center	—	*X205 Instrument Panel Harness to Passenger Air Bag Jumper Harness*
X210	Instrument Panel Harness COAX to Antenna Jumper Harness COAX (1 Cavity)	U2K or U2M	In the passenger compartment, between the instrument panel harness and the A-pillar	—	—
X211	Instrument Panel Harness COAX to Antenna Jumper Harness COAX (1 Cavity)	IO6 without UE1	In the passenger compartment, at the top right of the instrument panel, under the defroster duct trim	—	—
X212	Antenna Jumper Harness COAX to Instrument Panel Harness COAX (1 Cavity)	UE1 with CV3	In the passenger compartment, at the top right of the instrument panel, under the defroster duct trim	—	—
X215	HVAC Harness to Instrument Panel Harness (14 Cavities)	—	In the passenger compartment, behind the upper right side of the instrument panel	—	*X215 Instrument Panel Harness to Instrument Panel Harness*
X216	Body Harness To HVAC Harness (10 Cavities)	—	In the passenger compartment, behind the lower right side of the instrument panel	*Passenger Compartment Right Harness Routing*	*X216 Body Harness to HVAC Harness*
X217	Body Harness To HVAC Harness (2 Cavities)	—	In the passenger compartment, behind the lower right side of the instrument panel	—	*X217 Body Harness to HVAC Harness*

X222	Instrument Panel Harness COAX to Antenna Jumper Harness COAX (1 Cavity)	(IO6) with (VV4) or (UE1 with CV3)	In the passenger compartment, between the instrument panel harness and the A-pillar	—	—
X222	Instrument Panel Harness COAX to Antenna Jumper Harness COAX (2 Cavities)	(IO3, IO4 or IO5) with (VV4) or (UE1 with CV3)	In the passenger compartment, between the instrument panel harness and the A-pillar	—	—
X225	Body Harness To Instrument Panel Harness (42 Cavities)	—	In the passenger compartment, behind the lower left side of the instrument panel	*Passenger Compartment Left Harness Routing*	*X225 Body Harness to Instrument Panel Harness*
X238	Center Console Harness USB to Instrument Panel Harness USB	U42	2-Way USB connector, in the passenger compartment, at the front of the center console	—	—
X241	Instrument Panel Harness to Power Inverter Module Jumper (12 Cavities)	KI5	In the passenger compartment, behind the middle of the instrument panel	—	*X241 Engine Harness to Power Inverter Module Jumper Harness*
X245	Antenna Jumper Harness COAX to Antenna Jumper Harness COAX (1 Cavity)	—	In the passenger compartment, at the top right of the instrument panel, under the defroster duct trim	—	*X245 Antenna Jumper Harness COAX to Antenna Jumper Harness COAX*
X275	Instrument Panel Harness to Body Harness (42 Cavities)	—	In the passenger compartment, behind the lower right side of the instrument panel	*Passenger Compartment Right Harness Routing*	*X275 Instrument Panel Harness to Body Harness*
X300	Instrument Panel Harness to Center Console Harness (42 Cavities)	D07	In the passenger compartment, behind the lower center of the instrument panel	—	*X300 Instrument Panel Harness to Floor Console Harness*
X301	Body Harness USB to Instrumental Panel Harness USB	except D07	In the passenger compartment, at the base of the right A-pillar behind the trim panel	—	—
X302	Power Mat Jumper Harness to Floor Console Harness (3 Cavities)	K4C	In the passenger compartment, forward of center, in the floor console	—	*X302 Power Mat Jumper Harness to Floor Console Harness*
X305	Instrument Panel Harness to Headliner Harness (12 Cavities)	—	In the passenger compartment, behind the upper left side of the instrument panel, near the instrument cluster	—	*X305 Instrument Panel Harness to Headliner Harness*
X309	Center Console Harness USB to Instrument Panel Harness USB	D07 without U42	Between the instrument panel harness and the front console	—	—
X310	Driver Seat Cushion Harness to Body Harness (48 Cavities)	—	In the passenger compartment, under the passenger seat	• *Passenger Compartment Right Harness Routing* • *Passenger Compartment Left Harness Routing*	*X310 Driver Seat Cushion Harness to Body Harness*
X311	Driver Seat Back Harness to Driver Seat Cushion Harness (6 Cavities)	—	In the passenger compartment, part of the driver seat assembly	—	*X311 Driver Seat Back Harness to Driver Seat Cushion Harness*
X312	Driver Seat Back Harness to Driver Seat Cushion Harness (16 Cavities)	—	In the passenger compartment, part of the driver seat assembly	—	*X312 Driver Seat Back Harness to Driver Cushion Harness (16 WAY)*
X313	Body Harness USB to Center Seat Harness USB	—	In the passenger compartment, under the inboard side of the passenger seat, USB cable	—	*X313 Body Harness USB to Center Seat Harness USB*
X314	Center Seat Harness to Body Harness (23 Cavities)	except D07	In the passenger compartment, under the driver seat	• *Passenger Compartment Right Harness Routing* • *Passenger Compartment Left Harness Routing*	*X314 Center Seat Harness to Body Harness (except D07)*

X315	Headliner Harness to Body Harness (16 Cavities)	—	In the passenger compartment, near the middle of the left A-pillar	—	*X315 Headliner Harness to Body Harness*
X316	Headliner Harness to Overhead Console Harness (26 Cavities)	—	In the passenger compartment, in the headliner, near the over head console	—	*X316 Headliner Harness to Overhead Console Harness*
X318	Overhead Console Harness to Headliner Harness (10 Cavities)	CF5 or TRW	In the passenger compartment, in the headliner, between near the A-pillar	—	*X318 Headliner Harness to Overhead Console Harness*
X319	Overhead Console Harness to Headliner Harness (2 Cavities)	CF5 or TRW	In the passenger compartment, in the headliner, between near the A-pillar	—	*X319 Chassis Harness to Right A-Pillar Harness*
X320	Passenger Seat Cushion Harness to Body Harness (48 Cavities)	—	In the passenger compartment, under the passenger seat	*Passenger Compartment Left Harness Routing*	*X320 Passenger Seat Cushion Harness to Body Harness*
X321	Passenger Seat Back Harness to Passenger Seat Cushion Harness (6 Cavities)	—	In the passenger compartment, part of the passenger seat assembly	—	*X321 Passenger Seat Back Harness to Passenger Seat Cushion Harness*
X322	Passenger Seat Back Harness to Passenger Seat Cushion Harness (6 Cavities)	—	In the passenger compartment, part of the passenger seat assembly	—	*X322 Passenger Seat Back Harness to Passenger Seat Cushion Harness (12 WAY)*
X345	Engine Harness to Reductant Tank Harness (24 Cavities)	LML	At the right rear of the engine compartment, near the frame	—	*X345 Engine Harness to Reductant Tank Harness (LML)*
X350	Chassis Harness to CNG Rear Harness (4 Cavities)	LC8	Under the vehicle, at the top of the fuel tank, near the fuel pump and level sensor assembly	—	*X350 Chassis Harness to CNG Rear Harness (LC8)*
X351	Instrument Panel Harness LVDS to Headliner Harness LVDS (1 Cavities)	U42	In the passenger compartment, behind the left Instrument Panel end cap, near the Instrument Panel Fuse Block	—	*X351 Instrument Panel LVDS to Headliner LVDS (U42)*
X363	High Voltage Battery Monitoring Harness to Body Harness	HP5	At the front of the vehicle, at center, behind upper grille at hood latch	—	*X363 High Voltage Battery Monitoring Harness to Body Harness*
X380	Body Harness to Roof Rail Air Bag Jumper Harness (2 Cavities)	—	In the passenger compartment, behind the left C-pillar, near the headliner	—	*X380 Body Harness to Roof Rail Air Bag Jumper Harness*
X390	Body Harness to Roof Rail Air Bag Jumper Harness (2 Cavities)	—	In the passenger compartment, behind the right C-pillar, near the headliner	*Passenger Compartment Right Harness Routing*	*X390 Body Harness to Roof Rail Air Bag Jumper Harness*
X400	Engine Harness to Chassis Harness			—	*X400 Engine Harness to Chassis Harness*
X416	Rear Bumper Harness to Rear Clearance Lamps (Left) Jumper Harness (2 Cavities)	DRW except ZW9	At the rear of the vehicle, behind the left side of the rear fascia	*Rear Bumper Harness Routing*	*X416 Rear Bumper Harness to Rear Clearance Lamps (Left) Jumper Harness (DRW except ZW9)*
X416	License Lamp Jumper Harness to Rear Clearance Lamps (Left) Jumper Harness (2 Cavities)	DRW with ZW9	At the rear of the vehicle, behind the left side of the rear fascia	—	*X416 Rear Bumper Harness to Camper Harness*
X417	Rear Bumper Harness to Rear Clearance Lamps (Right) Jumper Harness (2 Cavities)	DRW except ZW9	At the rear of the vehicle, behind the left side of the rear fascia	—	*X417 Rear Bumper Harness to Rear Clearance Lamps (Right) Jumper Harness (DRW except ZW9)*
X417	License Lamp Jumper Harness to Rear Clearance Lamps (Right) Jumper Harness (2 Cavities)	DRW with ZW9	At the rear of the vehicle, behind the left side of the rear fascia	—	*X417 Rear Bumper Harness to Rear Clearance Lamps Harness*
X451	Chassis Harness to CNG Rear Harness (2 Cavities)	LC8	Under the rear of the vehicle, above the spare tire	—	—

X500	Driver Door Harness to Body Harness (41 Cavities)	—	In the passenger compartment, behind the left side of the instrument panel	• *Doors (Regular Cab with Manual Windows) Harness Routing* • *Driver Door Harness Routing*	*X500 Driver Door Harness to Body Harness*
X505	Driver Door Harness To Driver Door Trim Harness (48 Cavities)	A31	In the driver door, behind the driver door panel	—	*X505 Driver Door Harness to Driver Door Trim Harness*
X506	Driver Door Trim Harness to Driver Door Harness (8 Cavities)	without A31	In the driver door, behind the driver door panel	*Doors (Regular Cab with Manual Windows) Harness Routing*	*X506 Driver Door Trim Harness to Driver Door Harness*
X510	Outside Rearview Mirror to Driver Door Harness (8 Cavities)	DL3, DL8, DPN or DQS	In the driver door, behind the driver door panel, near the A-pillar	—	*X510 Driver Door Trim Harness to Driver Door Harness*
X600	Passenger Door Harness to Body Harness (41 Cavities)	—	In the passenger compartment, behind the right side of the instrument panel	• *Passenger Compartment Right Harness Routing* • *Passenger Compartment Left Harness Routing* • *Passenger Door Harness Routing* • *Doors (Regular Cab with Manual Windows) Harness Routing*	*X600 Passenger Door Harness to Body Harness*
X605	Passenger Door Harness to Passenger Door Trim Harness (48 Cavities)	A31	In the passenger door, behind the passenger door panel	—	*X605 Passenger Door Harness to Passenger Door Trim Harness*
X606	Passenger Door Trim Harness to Passenger Door Harness (8 Cavities)	without A31	In the passenger door, behind the passenger door panel	*Doors (Regular Cab with Manual Windows) Harness Routing*	*X606 Passenger Door Trim Harness to Passenger Door Harness*
X610	Outside Rearview Mirror to Passenger Door Harness (18 Cavities)	DL3, DL8, DPN or DQS	In the passenger door, behind the passenger door panel, near the A-pillar	—	*X610 Passenger Door Trim Harness to Passenger Door Harness*
X611	Outside Rearview Mirror to Passenger Door Harness (2 Cavities)	LML with AVF and DE2 or DF2	In the passenger door, behind the passenger door panel, near the A-pillar	—	—
X700	Left Rear Door Harness to Body Harness (20 Cavities)	Extended or Crew Cab	In the passenger compartment, behind the left B-pillar, near the middle	• *Rear Doors Harness Routing* • *Passenger Compartment Left Harness Routing*	*X700 Left Rear Door Harness to Body Harness*
X800	Right Rear Door Harness to Body Harness (20 Cavities)	Extended or Crew Cab	In the passenger compartment, behind the right B-pillar, near the middle	—	*X800 Right Rear Door Harness to Body Harness*
X950	Chassis Harness to Backup Alarm Jumper (7 Cavities)	8S3 or UY2	Under the rear of the vehicle, above the spare tire	—	*X950 Chassis Harness to Backup Alarm Jumper (8S3 or UY2)*
G100	Auxiliary Battery Cable	K4B or K4D	In the engine compartment, at left front of engine	*G100, G110 and G120 (L96 or LC8)*	—
G101	Forward Lamp Harness	—	Under the vehicle, mounted to the left frame rail, in front of the lower left radiator support	*G101*	—
G102	Forward Lamp Harness	—	Under the vehicle, mounted to the right frame rail, in front of the lower right radiator support	*G102*	—
G103	Battery Cable	LV1, LV3, L96 or LC8	In the engine compartment, at right rear of engine	• *G103, G130 and G140 (LV1 or LV3)* • *G103 (L96 or LC8)* • *G103 and G125 (L83 or L86)*	—

G103	Battery Cable	L83 or L86	In the engine compartment, at right side of engine	*G103 and G125 (L83 or L86)*	—
G109	Engine Jumper Harness	LML	In the engine compartment, at left front of engine, rear of G110, near oil pan	*G109 and G110 (LML)*	—
G110	Engine Harness	1500	In the engine compartment, on left front middle of the engine block	*G110 (1500)*	—
G110	Engine Harness	L96 or LC8	In the engine compartment, on left front rear of power steering pump	*G100, G110 and G120 (L96 or LC8)*	—
G110	Auxiliary Battery and Engine Harnesses	LML	In the engine compartment, at left front of engine, forward of G109, near oil pan	*G109 and G110 (LML)*	—
G111	CNG Main Harness	LC8	In the engine compartment, at the left rear, bolted to the left side of the bulkhead	—	—
G120	Engine Harness	L96 or LC8	In the engine compartment, at the right front of engine	*G100, G110 and G120 (L96 or LC8)*	—
G120	Battery and Engine Chassis Harnesses	LML	In the engine compartment, on right front of engine, near oil pan, below G122	*G120 and G122 (LML)*	—
G121	Chassis Harness	—	Under the vehicle at driver door on body mount frame post	*G121*	—
G122	Engine Harness	LML	In the engine compartment, on right front of engine, near oil pan, above G120	*G120 and G122 (LML)*	—
G125	Power Steering Jumper	1500	In the engine compartment, on the right side front of the engine, below the generator	• *G103 and G125 (L83 or L86)* • *G125 (LV1 or LV3)*	—
G130	Engine Harness	1500	In the engine compartment, on the left rear corner of the engine	• *G130 and G140 (L83 or L86)* • *G103, G130 and G140 (LV1 or LV3)*	—
G140	Engine Harness	1500	In the engine compartment, on the top right rear of the engine	• *G130 and G140 (L83 or L86)* • *G103, G130 and G140 (LV1 or LV3)*	—
G141	Battery Cable	—	Under the vehicle, at right front cab mounting ear of the frame	*G141*	—
G201	Steering Column Harness	—	In the passenger compartment, on the steering column assembly	—	—
G210	Instrument Panel Harness	—	In the passenger compartment, under the right front instrument panel defroster deflector, near the right A-pillar	*G210 and G218*	—
G218	Instrument Panel Harness	—	In the passenger compartment, under the left front instrument panel defroster deflector, near the left A-pillar	*G210 and G218*	—
G311	Body Harness	—	In the passenger compartment, on the left side B-pillar behind the trim panel	*G311 and G325*	—
G312	Body Harness	—	In the passenger compartment, on the right side B-pillar behind the trim panel	*G312 and G327*	—
G325	Body Harness	—	In the passenger compartment, under the left side of the front passenger seat	*G311 and G325*	—

G327	Body Harness	—	In the passenger compartment, under the right side of the front passenger seat	*G312 and G327*	—
G380	Rear Defogger Grid	—	In the passenger compartment, below the driver side of the rear window, mounted to the rear wall of the cab, behind the trim	—	—
G400	Chassis Harness	—	Under the vehicle, mounted to the right of X63A Junction Block – Rear Body	*G400*	—
J101	Forward Lamp Harness	—	At the front of the vehicle, behind the front bumper	*Front Bumper Harness Routing*	—
J102	Engine Harness	—	In the engine compartment, in the engine harness	—	—
J103	Engine Harness	—	In the engine compartment, in the engine harness	—	—
J104	Front Bumper Harness	—	At the front of the vehicle, behind the front bumper	—	—
J105	Front Bumper Harness	—	At the front of the vehicle, behind the front bumper	*Front Bumper Harness Routing*	—
J106	Ignition Coil (Even) Harness	—	In the engine compartment, at the top of the engine assembly	—	—
J107	Ignition Coil (Odd) Harness	—	In the engine compartment, at the top of the engine assembly	*Front Bumper Harness Routing*	—
J109	Ignition Coil (Odd) Harness	—	In the engine compartment, at the top of the engine assembly	—	—
J110	Headlamp Harness	—	At the front of the vehicle, inside the headlamp assembly	—	—
J111	Headlamp Harness	—	At the front of the vehicle, inside the headlamp assembly	—	—
J112	Ignition Coil (Even) Harness	—	In the engine compartment, at the top of the engine assembly	—	—
J113	Engine Harness	LML	In the engine compartment, in the engine harness	*Engine Compartment Left Harness Routing*	—
J115	Forward Lamp Harness	—	In the engine compartment, near the lower left side of the lower radiator support	—	—
J120	Headlamp Harness	—	At the front of the vehicle, inside the headlamp assembly	—	—
J121	Headlamp Harness	—	At the front of the vehicle, inside the headlamp assembly	—	—
J122	Headlamp Harness	—	At the front of the vehicle, inside the headlamp assembly	—	—
J123	Engine Harness	—	On the engine, rear of the intake manifold, near the left center	*Left Side of Engine Harness Routing (L96)*	—
J124	Engine Harness	—	In the engine compartment, in the engine harness	*Engine Compartment Left Harness Routing*	—
J125	Engine Harness	—	In the engine compartment, near the lower right side of the lower radiator support	—	—

J126	Engine Harness	—	In the engine compartment, in the engine harness	*Engine Compartment Left Harness Routing*	—
J130	Aero Shutter Jumper Harness	—	In the engine compartment, near the center of the lower radiator support	—	—
J133	Chassis Harness	—	In the engine compartment, near the underhood fuse block	—	—
J142	Transmission Harness	MW7	Under the vehicle, inside the transmission assembly	—	—
J143	Transmission Harness	MW7	Under the vehicle, inside the transmission assembly	—	—
J144	Transmission Harness	MW7	Under the vehicle, inside the transmission assembly	—	—
J148	Engine Harness	—	In the engine compartment, in the engine harness	—	—
J149	Engine Harness	—	In the engine compartment, in the engine harness	—	—
J161	Engine Harness	—	In the engine compartment, in the engine harness	—	—
J162	Engine Harness	—	In the engine compartment, in the engine harness	—	—
J163	Engine Harness	—	In the engine compartment, in the engine harness	—	—
J165	Engine Harness	—	On the engine, rear of the intake manifold, near the left center	• *Engine Compartment Left Harness Routing* • *Left Side of Engine Harness Routing (L96)*	—
J166	Engine Harness	—	In the engine compartment, near the breakout for the even fuel injectors	—	—
J167	Engine Harness	—	In the engine compartment, near the breakout for the odd fuel injectors	—	—
J168	Chassis Harness	LML	In the engine compartment, near the breakout for the left front wheel speed sensor	—	—
J169	Chassis Harness	LML	In the engine compartment, near the breakout for the left front wheel speed sensor	—	—
J175	Transmission Harness	M5U	Under the vehicle, inside the transmission assembly	—	—
J176	Transmission Harness	M5U	Under the vehicle, inside the transmission assembly	—	—
J177	Transmission Harness	M5U	Under the vehicle, inside the transmission assembly	—	—
J178	Engine Harness	—	In the engine compartment, in the engine harness	—	—
J179	Engine Harness	—	In the engine compartment, in the engine harness	—	—
J183	CNG Rear Harness	LC8	In the engine compartment, in the CNG harness	—	—
J184	CNG Rear Harness	LC8	In the engine compartment, in the CNG harness	—	—
J186	CNG Main Harness	LC8	In the engine compartment, in the CNG harness	—	—

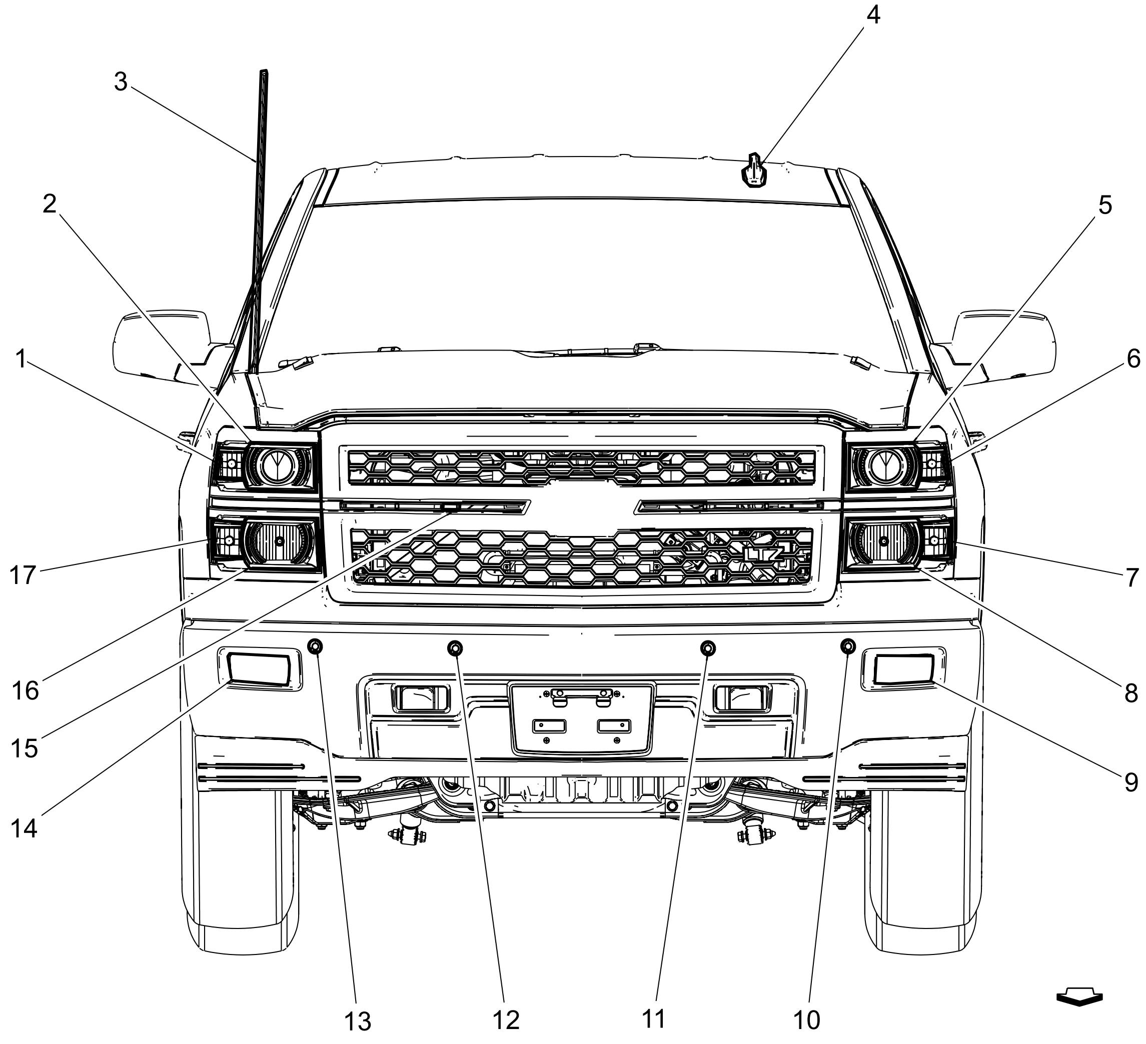
J189	CNG Main Harness	LC8	In the engine compartment, in the CNG harness	—	—
J191	Chassis Harness	—	In the engine compartment, near the breakout for the left front wheel speed sensor	—	—
J192	CNG Main Harness	LC8	In the engine compartment, in the CNG harness	—	—
J193	CNG Main Harness	LC8	In the engine compartment, in the CNG harness	—	—
J194	Engine Jumper Harness	LML	In the engine compartment, in the engine jumper harness, approximately 14 cm (6 in) from X113	—	—
J195	Auxiliary Battery Harness	K4B or K4D	In the engine compartment, in the auxiliary battery harness	—	—
J195	Engine Harness	LML	In the engine compartment, in the engine harness, between Throttle body and X101	—	—
J196	Engine Harness	LML	In the engine compartment, in the engine harness, on branch to ECM	—	—
J197	Engine Harness	LML	In the engine compartment, in the engine harness, on branch to ECM	—	—
J198	Engine Harness	LML	In the engine compartment, in the engine harness, between GPCM and G122	—	—
J200	Instrument Panel Harness	—	In the passenger compartment, behind the left side of the instrument panel	—	—
J201	Instrument Panel Harness	—	In the passenger compartment, behind the left side of the instrument panel	*Passenger Compartment Left Harness Routing*	—
J202	Instrument Panel Harness	—	In the passenger compartment, left side of the instrument panel	—	—
J203	Instrument Panel Harness	—	In the passenger compartment, behind the instrument panel	—	—
J204	Steering Column Harness	—	In the passenger compartment, on the steering column assembly	—	—
J205	Instrument Panel Harness	—	In the passenger compartment, behind the left side of the instrument panel	—	—
J208	Instrument Panel Harness	—	In the passenger compartment, behind the instrument panel	—	—
J209	Instrument Panel Harness	—	In the passenger compartment, behind the instrument panel	—	—
J210	Instrument Panel Harness	—	In the passenger compartment, behind the left side of the instrument panel	—	—
J211	Instrument Panel Harness	—	In the passenger compartment, behind the left side of the instrument panel	—	—
J212	Instrument Panel Harness	—	In the passenger compartment, behind the left side of the instrument panel	—	—
J213	Instrument Panel Harness	—	In the passenger compartment, behind the instrument panel	—	—

J215	Instrument Panel Harness	—	In the passenger compartment, behind the instrument panel	—	—
J216	HVAC Harness	—	In the passenger compartment, behind the glove box, in the HVAC harness	—	—
J220	Instrument Panel Harness	—	In the passenger compartment, behind the center of the instrument panel, below the radio	—	—
J240	Instrument Panel Harness	—	In the passenger compartment, behind the left side of the instrument panel	—	—
J241	Instrument Panel Harness	—	In the passenger compartment, behind the right side of the instrument panel	—	—
J242	Instrument Panel Harness	—	In the passenger compartment, behind the right side of the instrument panel	—	—
J245	Instrument Panel Harness	—	In the passenger compartment, behind the center of the instrument panel, to the left of the radio	—	—
J249	Instrument Panel Harness	—	In the passenger compartment, behind the center of the instrument panel, below the radio	—	—
J250	Instrument Panel Harness	—	In the passenger compartment, behind the center of the instrument panel, to the right of the radio	—	—
J255	HVAC Harness	—	In the passenger compartment, behind the glove box, in the HVAC harness	—	—
J257	HVAC Harness	—	In the passenger compartment, behind the glove box, in the HVAC harness	—	—
J258	HVAC Harness	—	In the passenger compartment, behind the glove box, in the HVAC harness	—	—
J260	Instrument Panel Harness	—	In the passenger compartment, under the right front sill plate	*Passenger Compartment Right Harness Routing*	—
J284	Steering Column Harness	—	In the passenger compartment, on the steering column assembly	—	—
J285	Steering Wheel Harness	—	In the passenger compartment, behind the driver air bag	—	—
J292	Headliner Harness	—	In the passenger compartment, above the headliner	—	—
J295	Steering Wheel Harness	—	In the passenger compartment, behind the driver air bag	—	—
J298	Instrument Panel Harness	—	In the passenger compartment, right side of the instrument panel	*Passenger Compartment Right Harness Routing*	—
J299	Instrument Panel Harness	—	In the passenger compartment, behind the instrument panel, behind the center of the instrument cluster	*Passenger Compartment Right Harness Routing*	—
J300	Chassis Harness	—	Underneath the vehicle, along the outside of the left frame rail, near the driver door	—	—
J302	Body Harness	—	In the passenger compartment, under the left side of the instrument panel	—	—

J303	Overhead Console Harness	—	In the passenger compartment, above the headliner	—	—
J305	Instrument Panel Harness	—	In the passenger compartment, under the left front sill plate	*Passenger Compartment Left Harness Routing*	—
J306	Body Harness	—	In the passenger compartment, under the left front sill plate	—	—
J307	Body Harness	—	In the passenger compartment, under the left front sill plate	*Passenger Compartment Left Harness Routing*	—
J308	Body Harness	—	In the passenger compartment, under the left front sill plate	—	—
J309	Body Harness	—	In the passenger compartment, under the left front sill plate	*Passenger Compartment Left Harness Routing*	—
J310	Headliner Harness	Extended or Crew Cab or Standard Cab with DH6	In the passenger compartment, in the headliner, near the left B-pillar	—	—
J311	Driver Seat Cushion Harness	—	In the passenger compartment, under the driver seat	—	—
J312	Headliner Harness	Extended or Crew Cab	In the passenger compartment, in the headliner, near the left B-pillar	—	—
J313	Driver Seat Cushion Harness	—	In the passenger compartment, in the headliner, near the C-pillar	—	—
J314	Driver Seat Cushion Harness	—	In the passenger compartment, under the driver seat	—	—
J315	Driver Seat Cushion Harness	—	In the passenger compartment, under the driver seat	—	—
J316	Driver Seat Cushion Harness	—	In the passenger compartment, under the driver seat	—	—
J317	Headliner Harness	—	In the passenger compartment, above the headliner	—	—
J318	Driver Seat Cushion Harness	—	In the passenger compartment, under the driver seat	—	—
J323	Passenger Seat Cushion Harness	—	In the passenger compartment, under the passenger seat cushion	—	—
J324	Passenger Seat Cushion Harness	—	In the passenger compartment, under the passenger seat cushion	—	—
J326	Passenger Seat Cushion Harness	—	In the passenger compartment, under the passenger seat cushion	—	—
J327	Passenger Seat Cushion Harness	—	In the passenger compartment, under the passenger seat cushion	—	—
J328	Passenger Seat Back Harness	—	In the passenger compartment, in the passenger seat back	—	—
J331	Body Harness	—	In the passenger compartment, under the left rear of the left front seat	*Passenger Compartment Left Harness Routing*	—

J332	Headliner Harness	—	In the passenger compartment, in the headliner, near the driver sunshade	—	—
J333	Overhead Console Harness	—	In the passenger compartment, above the headliner	—	—
J350	Body Harness	—	In the passenger compartment, under the driver seat	*Passenger Compartment Right Harness Routing*	—
J355	Chassis Harness	—	Under the vehicle, along driver side of the frame, under the driver door	—	—
J356	Chassis Harness	—	Under the vehicle, along driver side of the frame, under the driver door	—	—
J360	Body Harness	—	In the passenger compartment, behind the left front kick panel, at the base of the A-pillar	*Passenger Compartment Right Harness Routing*	—
J361	Body Harness	—	In the passenger compartment, under the left rear of the center console	—	—
J362	Body Harness	—	In the passenger compartment, below the passenger door sill plate	*Passenger Compartment Right Harness Routing*	—
J365	Body Harness	—	In the passenger compartment, under the right front sill plate	*Passenger Compartment Right Harness Routing*	—
J367	Body Harness	—	In the passenger compartment, under the right front sil plate	*Passenger Compartment Right Harness Routing*	—
J370	Body Harness	—	In the passenger compartment, near the base of the left B-pillar	—	—
J372	Body Harness	—	In the passenger compartment, under the passenger seat	*Passenger Compartment Right Harness Routing*	—
J375	Chassis Harness	—	Under the vehicle, on the rear of the left frame rail	—	—
J379	Body Harness	—	In the passenger compartment, under the rear of the center console	*Passenger Compartment Left Harness Routing*	—
J380	Body Harness	—	In the passenger compartment, under the rear of the center console	—	—
J382	Body Harness	—	In the passenger compartment, under the left rear of the center console	*Passenger Compartment Left Harness Routing*	—
J383	Body Harness	—	In the passenger compartment, behind the left front kick panel, at the base of the A-pillar	—	—
J384	Body Harness	—	In the passenger compartment, under the left rear of the center console	*Passenger Compartment Left Harness Routing*	—
J395	Headliner Harness	—	In the passenger compartment, above the headliner	—	—
J411	Clearance Lamp Jumper	—	At the rear of the vehicle, under the bed	—	—
J421	Clearance Lamp Jumper	—	At the rear of the vehicle, under the bed	—	—
J449	Chassis Harness	JL1 or Z85	Underside of the vehicle, left frame rail, at rear of vehicle, approximately 20cm (7.75 inches) forward of break-out for the left rear speed sensor	—	—

J450	Chassis Harness	—	Under the rear of the vehicle, between the frame rails, above the spare tire	—	—
J451	Chassis Harness	—	Under the rear of the vehicle, at the inside of the frame rail near the spare tire	—	—
J490	Rear Bumper Harness	—	In the rear bumper, near the upper left center of the bumper	*Rear Bumper Harness Routing*	—
J491	Cargo Lamp Jumper	—	At the rear of the vehicle, under the bed	—	—
J495	Rear Bumper Harness	—	In the rear bumper, near the upper left center of the bumper	*Rear Bumper Harness Routing*	—
J505	Driver Door Trim Harness	—	Behind the driver door trim panel	—	—
J515	Driver Door Harness	—	In the driver door, behind the trim panel, near the front window track	• *Doors (Regular Cab with Manual Windows) Harness Routing* • *Driver Door Harness Routing*	—
J519	Driver Door Harness	—	In the driver door, near X505 connector	—	—
J550	Driver Door Harness	—	In the driver door, near the front window track	—	—
J615	Passenger Door Harness	—	In the passenger door, behind the trim panel, near the front window track	• *Doors (Regular Cab with Manual Windows) Harness Routing* • *Passenger Door Harness Routing*	—
J715	Left Rear Door Harness	—	In the left rear door, behind the trim panel, near the front window track	—	—
J815	Right Rear Door Harness	—	In the right rear door, behind the trim panel, near the front window track	*Rear Doors Harness Routing*	—
J901	Camper Jumper	—	Under the vehicle, above the spare tire	—	—
J902	Camper Jumper	—	Under the vehicle, above the spare tire	—	—
J903	Camper Jumper	—	Under the vehicle, above the spare tire	—	—
J904	Camper Jumper	—	Under the vehicle, above the spare tire	—	—
J905	Camper Jumper	—	Under the vehicle, above the spare tire	—	—
J906	Camper Jumper	—	Under the vehicle, above the spare tire	—	—
JX101	CNG Front Harness	LC8	In the engine compartment, mounted to a bracket that is mounted to the bottom of the battery tray, on the left front of the engine compartment	—	*JX101 Splice Pack - CNG Engine (LC8)*
JX102	CNG Front Harness	LC8	In the engine compartment, mounted to a bracket that is mounted to the bottom of the battery tray, on the left front of the engine compartment	—	*JX102 Splice Pack - CNG Engine (LC8)*
JX200	Instrument Panel Harness	—	In the passenger compartment, at the base of the left A-pillar behind the trim panel	—	*JX200 Splice Pack - Instrument Panel*
JX300	Body Harness	—	In the passenger compartment, at the base of the right A-pillar behind the trim panel	*Passenger Compartment Right Harness Routing*	*JX300 Splice Pack - Body*

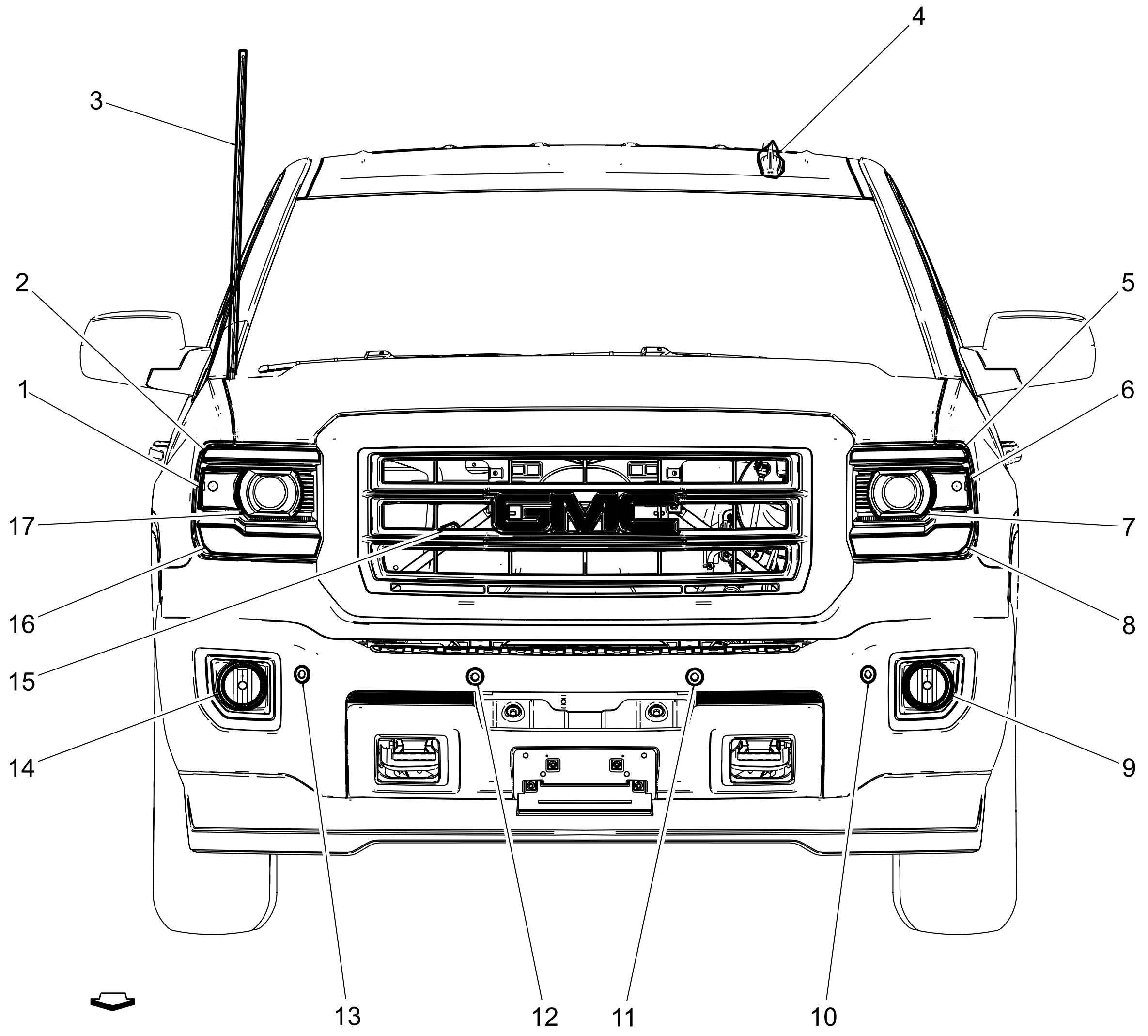


Items

1. E4T Park/Turn Signal Lamp - Right Upper (X88)
2. E4H Headlamp - Right Low Beam
3. T4M Radio Antenna
4. T4G Cellular Phone, Navigation, and Digital Radio Antenna
5. E4G Headlamp - Left Low Beam
6. E4S Park/Turn Signal Lamp - Left Upper (X88)
7. E4Q Park/Turn Signal Lamp - Left Lower (X88)
8. E4E Headlamp - Left High Beam (X88)
9. E29LF Fog Lamp - Left Front (T3U)
10. B78A Front Object Sensor - Left Outer (UD5)
11. B78C Front Object Sensor - Left Middle (UD5)

11. B78C Front Object Sensor - Left Middle (UD5)
12. B78D Front Object Sensor - Right Middle (UD5)
13. B78B Front Object Sensor - Right Outer (UD5)
14. E29RF Fog Lamp - Right Front (T3U)
15. B9 Ambient Air Temperature Sensor
16. E4F Headlamp - Right High Beam (X88)
17. E4R Park/Turn Signal Lamp - Right Lower (X88)

Front of Vehicle (GMC) Components

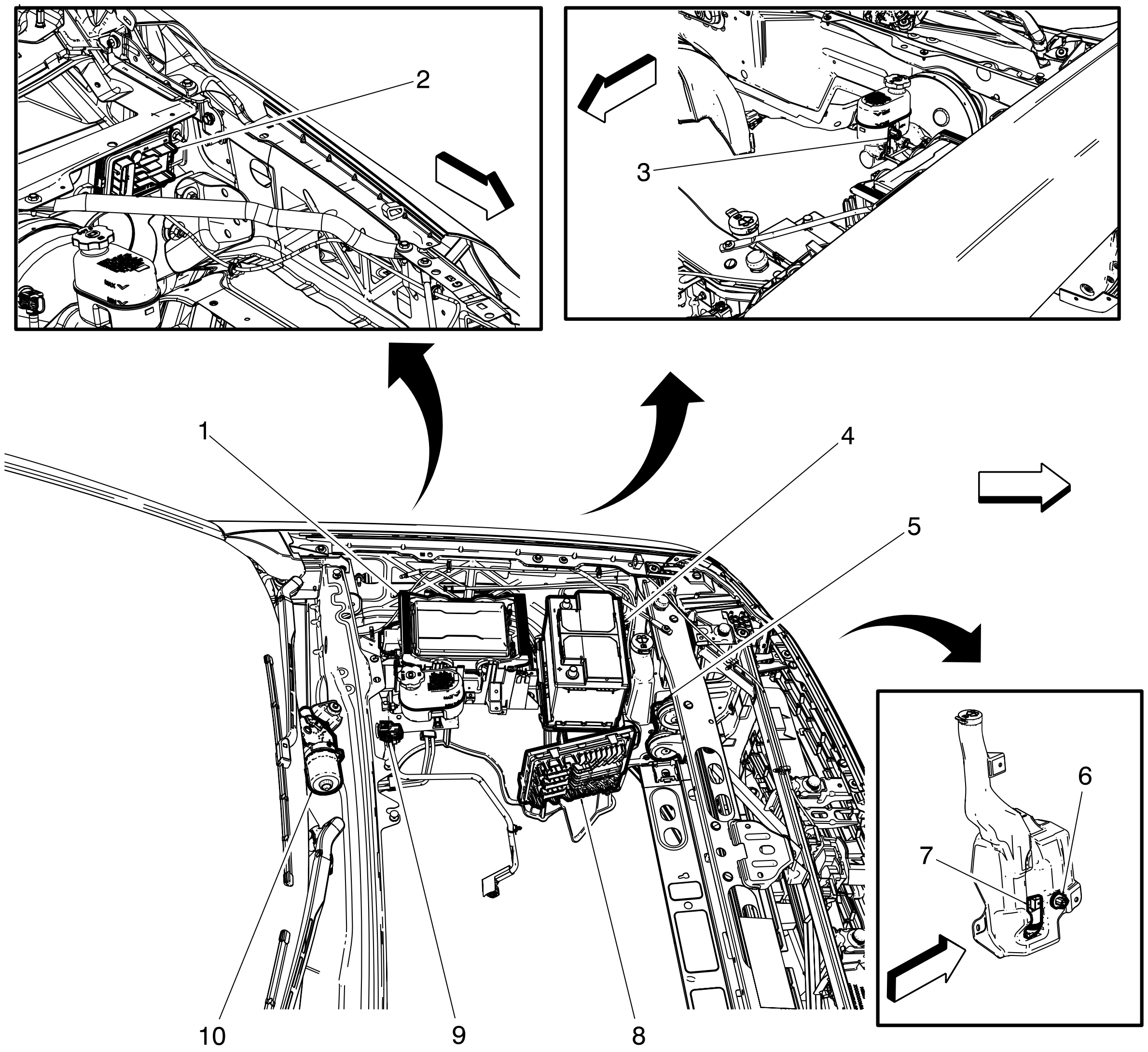


Items

1. E4P Park/Turn Signal Lamp - Right (Z88)
2. E4J Park Lamp - Left Front (Z88 with SLT)
3. T4M Radio Antenna
4. T4G Cellular Phone, Navigation, and Digital Radio Antenna
5. E4K Park Lamp - Right Front (Z88 with SLT)
6. E4G Headlamp - Left Low Beam
7. E4N Park/Turn Signal Lamp - Left (Z88)
8. E4AD Park/Daytime Running Lamp - Right (Z88 with SLT)
9. E29LF Fog Lamp - Left Front (T3U)
10. B78A Front Object Sensor - Left Outer (UD5)
11. B78C Front Object Sensor - Left Middle (UD5)

11. B78C Front Object Sensor - Left Middle (UD5)
12. B78D Front Object Sensor - Right Middle (UD5)
13. B78A Front Object Sensor - Left Outer (UD5)
14. E29RF Fog Lamp - Right Front (T3U)
15. B9 Ambient Air Temperature Sensor
16. E4AC Park/Daytime Running Lamp - Left (Z88 with SLT)
17. E4H Headlamp - Right Low Beam

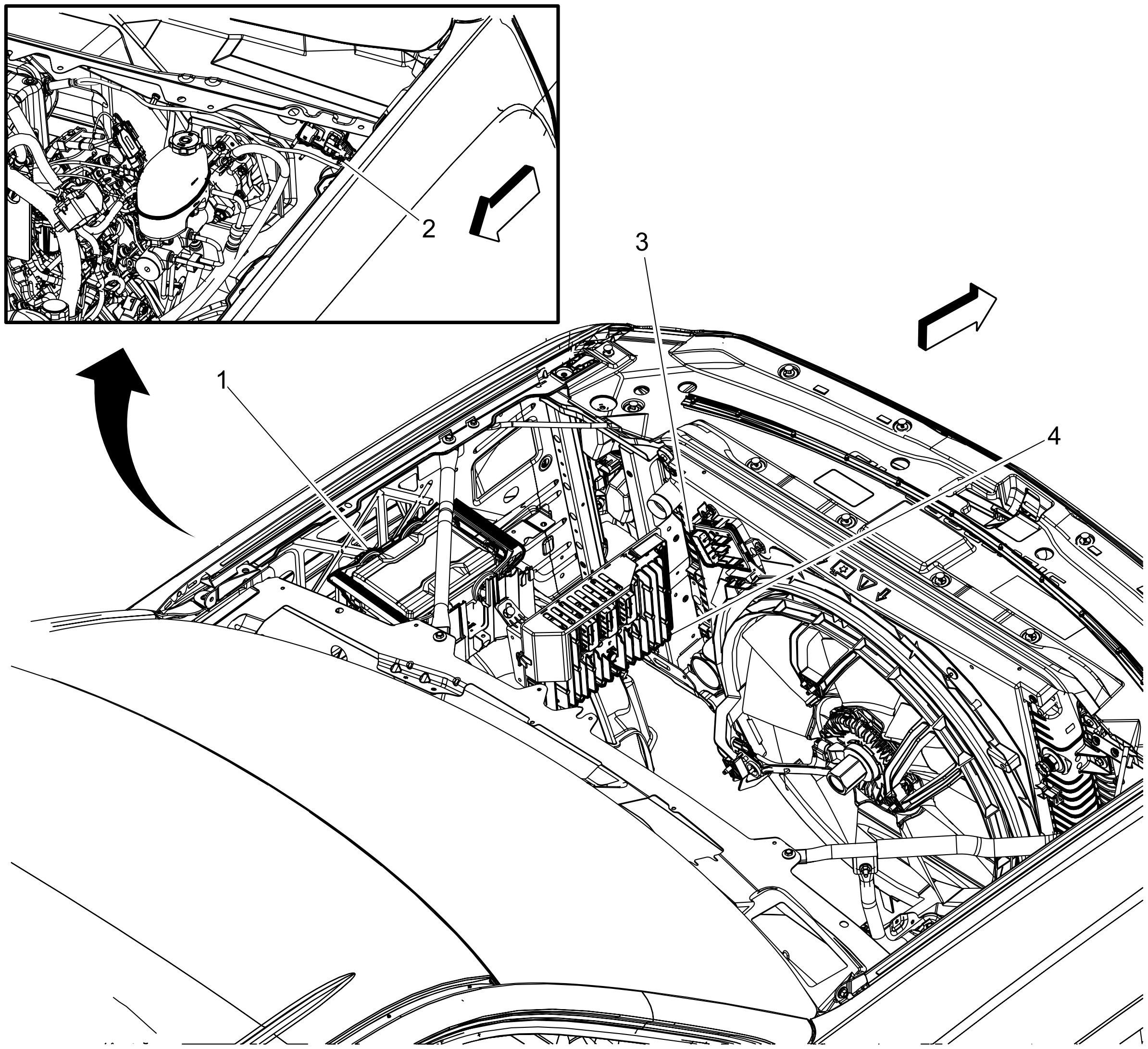
Left Side of Engine Compartment Components (except LML)



Items

1. X50A Fuse Block - Underhood
2. K71 Transmission Control Module
3. B20 Brake Fluid Level Switch
4. C1B Battery - Auxiliary (K4B, K4D or LML)
5. P12 Horn
6. B118B Windshield Washer Fluid Level Switch
7. G24 Windshield Washer Pump
8. K20 Engine Control Module
9. B19B Brake Booster Vacuum Sensor
10. M75 Windshield Wiper Motor

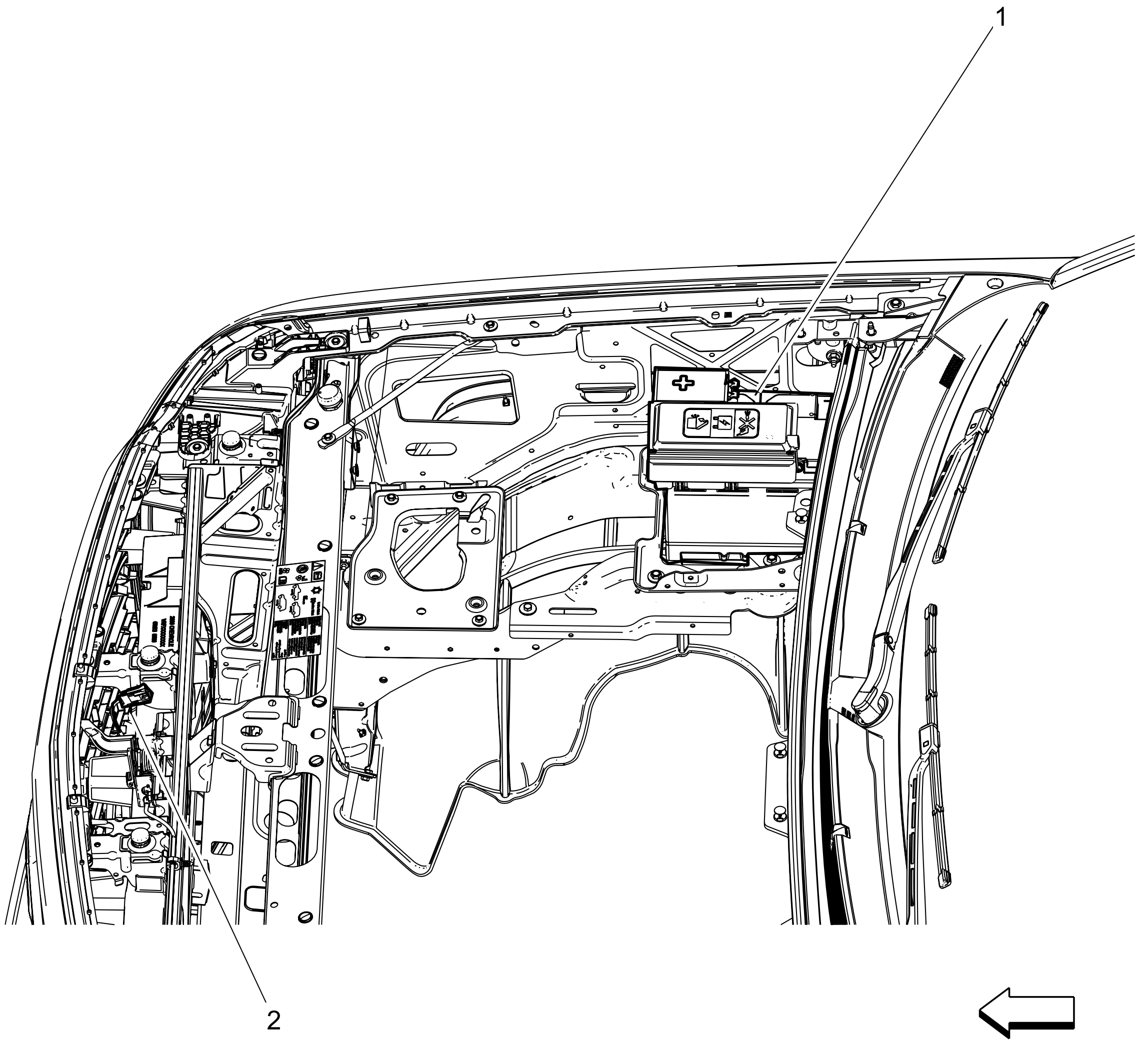
Left Side of Engine Compartment Components (LML)



Items

1. X50A Fuse Block - Underhood
2. B195A Nitrogen Oxides Sensor 1 (LML)
3. K71 Transmission Control Module
4. K20 Engine Control Module

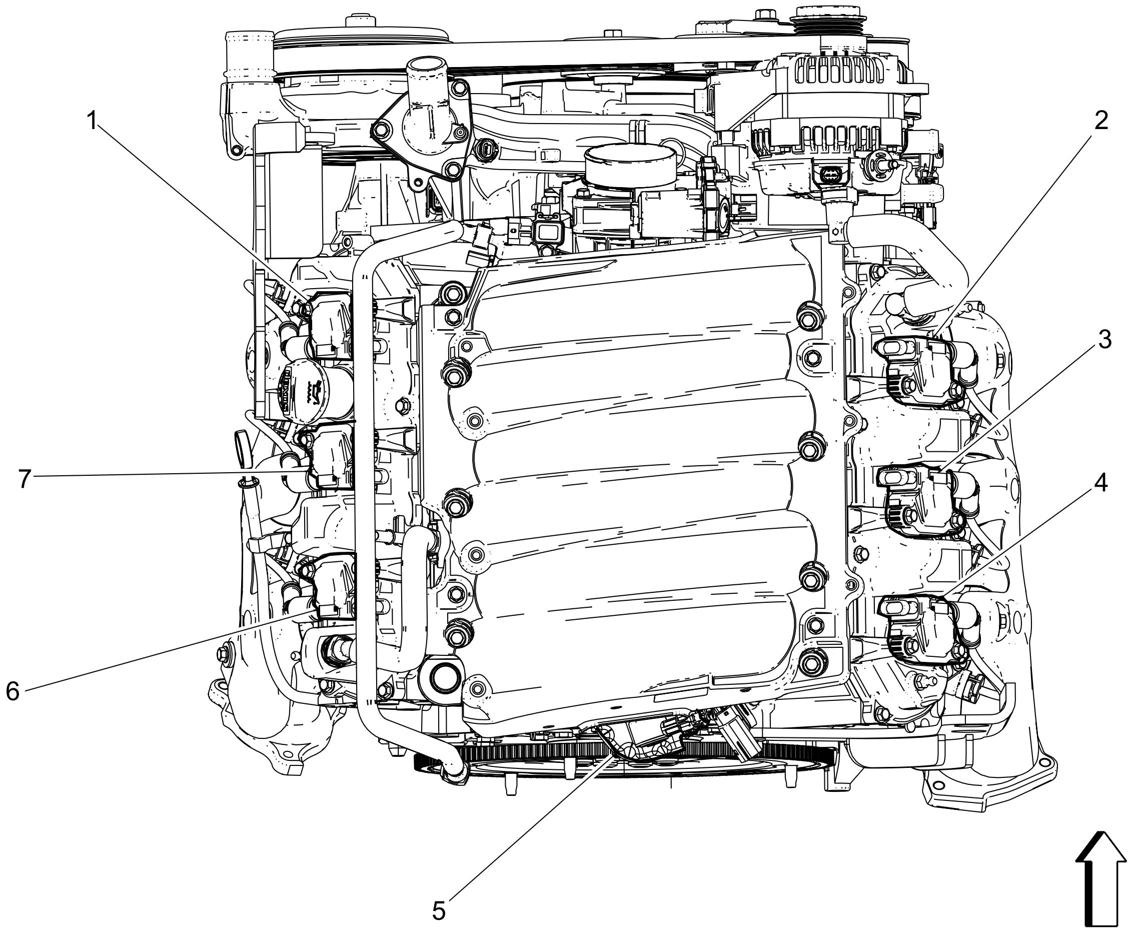
Right Side of Engine Compartment Components



Items

1. C1 Battery
2. B55 Hood Ajar Switch

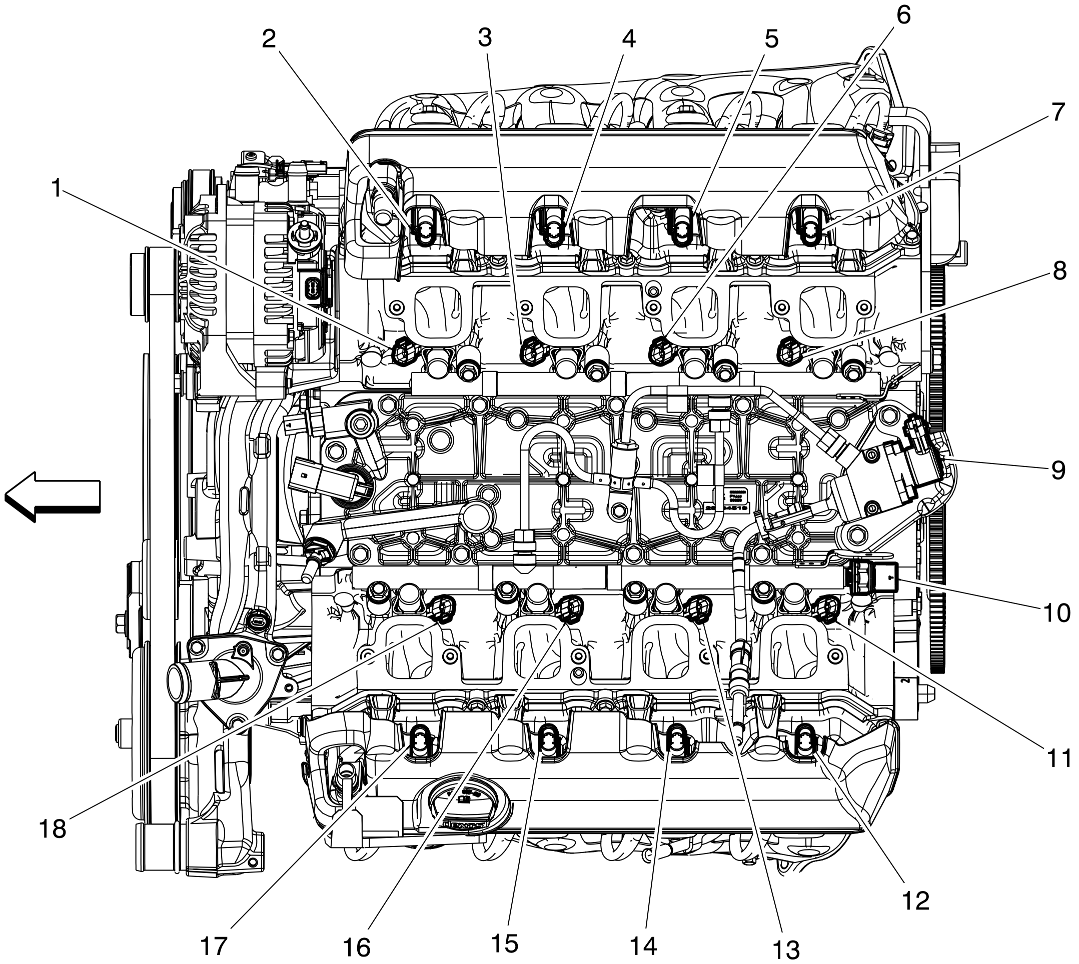
Top of Engine (LV1 or LV3) Components



Items

1. T8A Ignition Coil 1
2. T8B Ignition Coil 2
3. T8D Ignition Coil 4
4. T8F Ignition Coil 6
5. G18 High Pressure Fuel Pump
6. T8E Ignition Coil 5
7. T8C Ignition Coil 3

Top of Engine Components (L83 or L86)

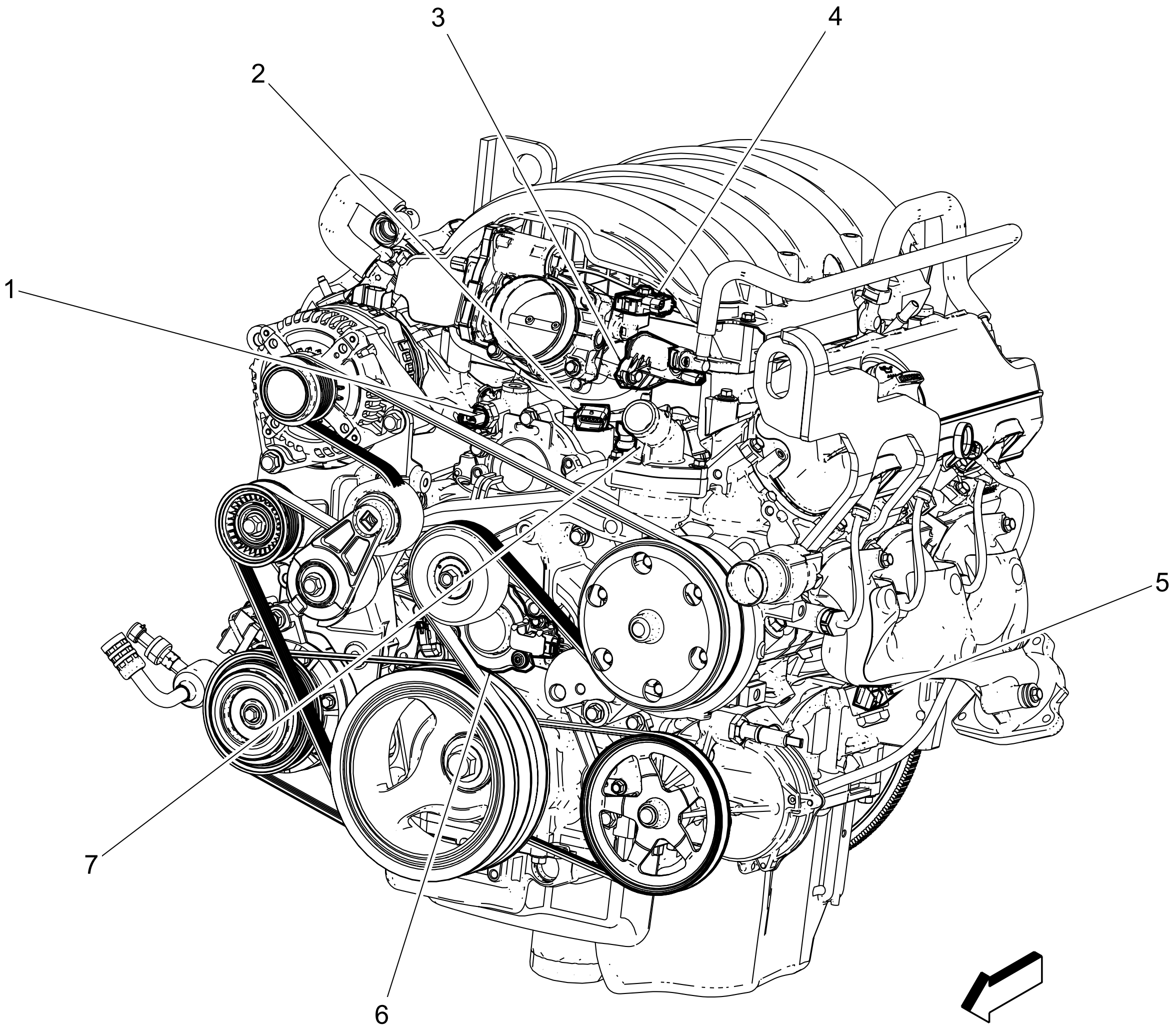


Items

1. Q17B Fuel Injector 2
2. T8B Ignition Coil 2
3. Q17D Fuel Injector 4
4. T8D Ignition Coil 4
5. T8F Ignition Coil 6
6. Q17F Fuel Injector 6
7. T8H Ignition Coil 8
8. Q17H Fuel Injector 8
9. G18 High Pressure Fuel Pump
10. B47B Fuel Rail Pressure Sensor
11. Q17G Fuel Injector 7

11. Q17G Fuel Injector 7
12. T8G Ignition Coil 7
13. Q17E Fuel Injector 5
14. T8E Ignition Coil 5
15. T8C Ignition Coil 3
16. Q17C Fuel Injector 3
17. T8A Ignition Coil 1
18. Q17A Fuel Injector 1

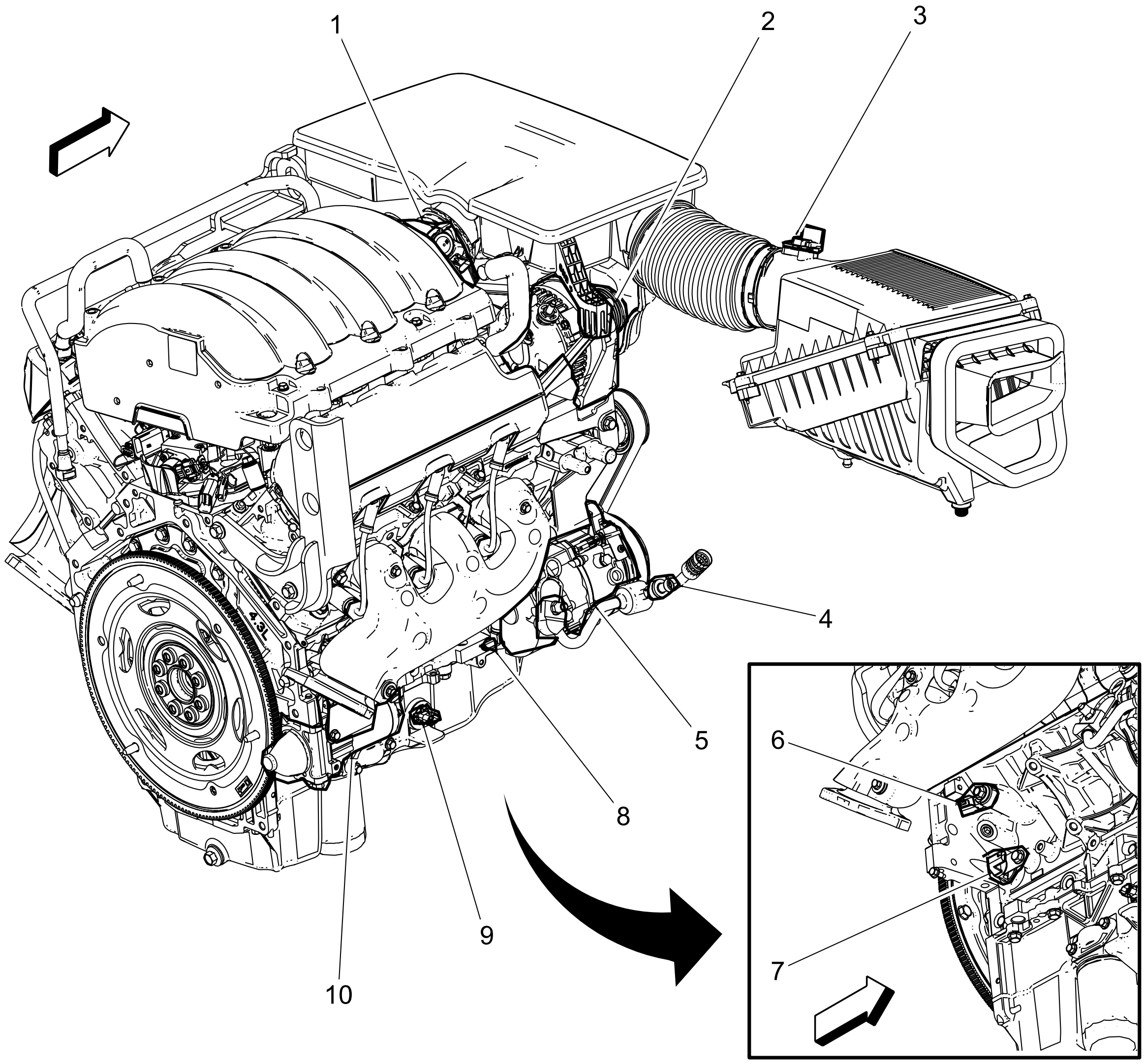
Left Front of Engine (LV1 or LV3) Components



Items

1. B37B Engine Oil Pressure Sensor
2. Q43 Valve Lifter Oil Manifold Assembly
3. Q12 Evaporative Emission Purge Solenoid Valve
4. B74 Manifold Absolute Pressure Sensor
5. B68A Knock Sensor 1
6. Q6 Camshaft Position Actuator Solenoid Valve
7. B34 Engine Coolant Temperature Sensor

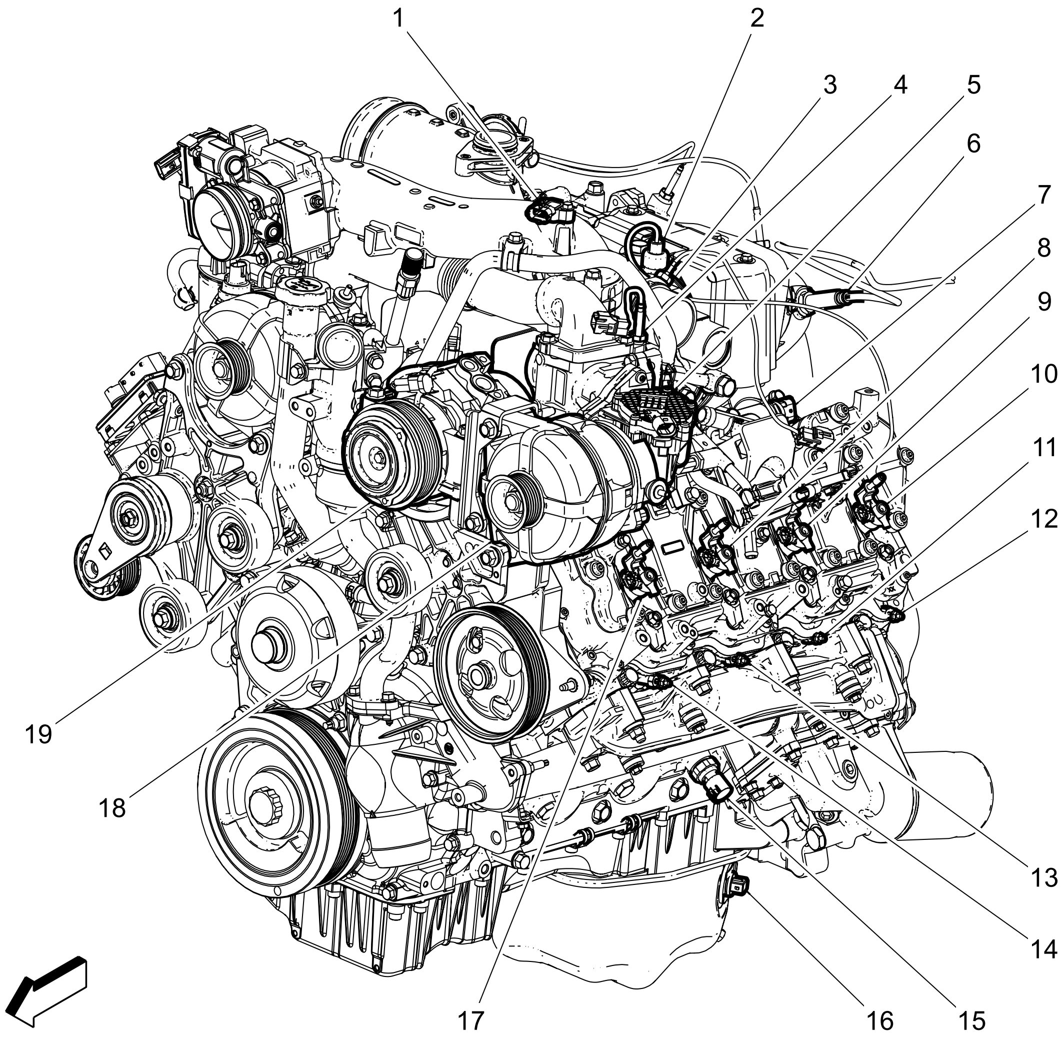
Right Rear of Engine (LV1 or LV3) Components



Items

1. Q38 Throttle Body
2. G13 Generator
3. B75C Multifunction Intake Air Sensor
4. B1 A/C Refrigerant Pressure Sensor
5. Q2 A/C Compressor Clutch
6. B68B Knock Sensor 2
7. B26 Crankshaft Position Sensor
8. Q46 A/C Compressor Solenoid Valve
9. B35 Engine Oil Level Switch
10. M64 Starter Motor

Left Side of Engine Components (LML)

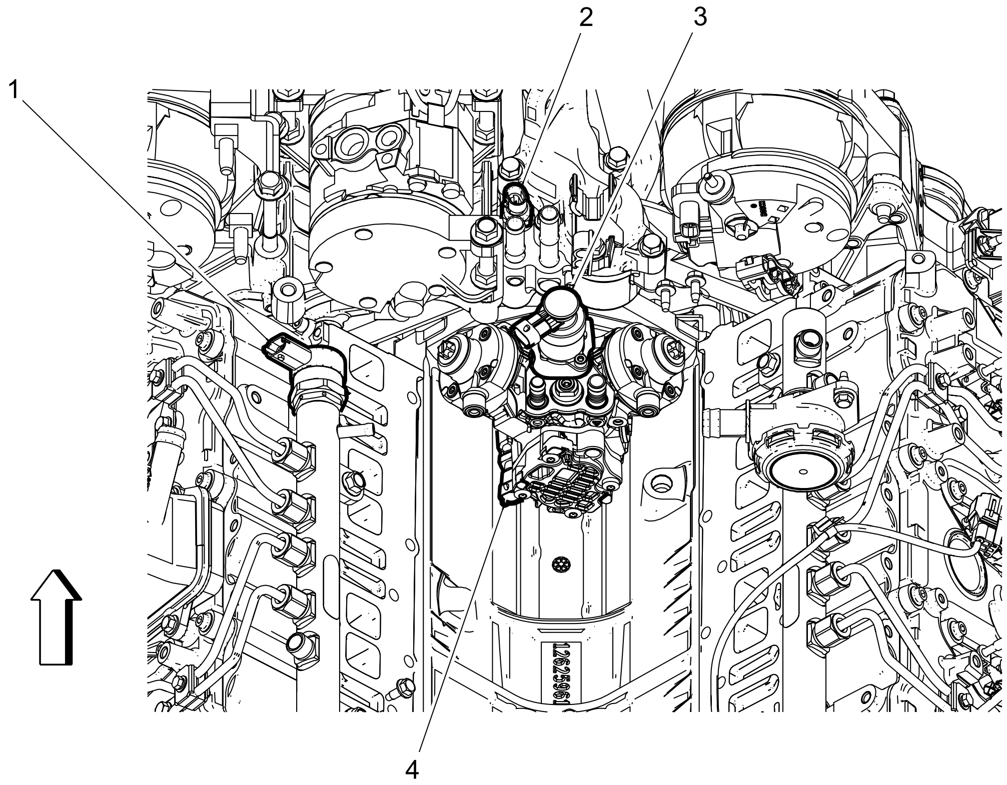


Items

1. B74 Manifold Absolute Pressure Sensor
2. B112 Turbocharger Vane Position Sensor (LML)
3. B193A Charge Air Cooler Inlet Temperature Sensor (LML)
4. B13OB
5. Q14 Exhaust Gas Recirculation Valve (LML)
6. B195A Nitrogen Oxides Sensor 1 (LML)
7. B47B Fuel Rail Pressure Sensor (1500 or LML)
8. Q17D Fuel Injector 4
9. Q17F Fuel Injector 6
10. Q17H Fuel Injector 8
11. E12F Glow Plug 6 (LML)

11. E12F Glow Plug 6 (LML)
12. E12H Glow Plug 8 (LML)
13. E12D Glow Plug 4 (LML)
14. E12B Glow Plug 2 (LML)
15. B37B Engine Oil Pressure Sensor
16. B35 Engine Oil Level Switch (1500 or LML)
17. Q17B Fuel Injector 2
18. G13 Generator
19. G1 A/C Compressor (C67 or CJ2)

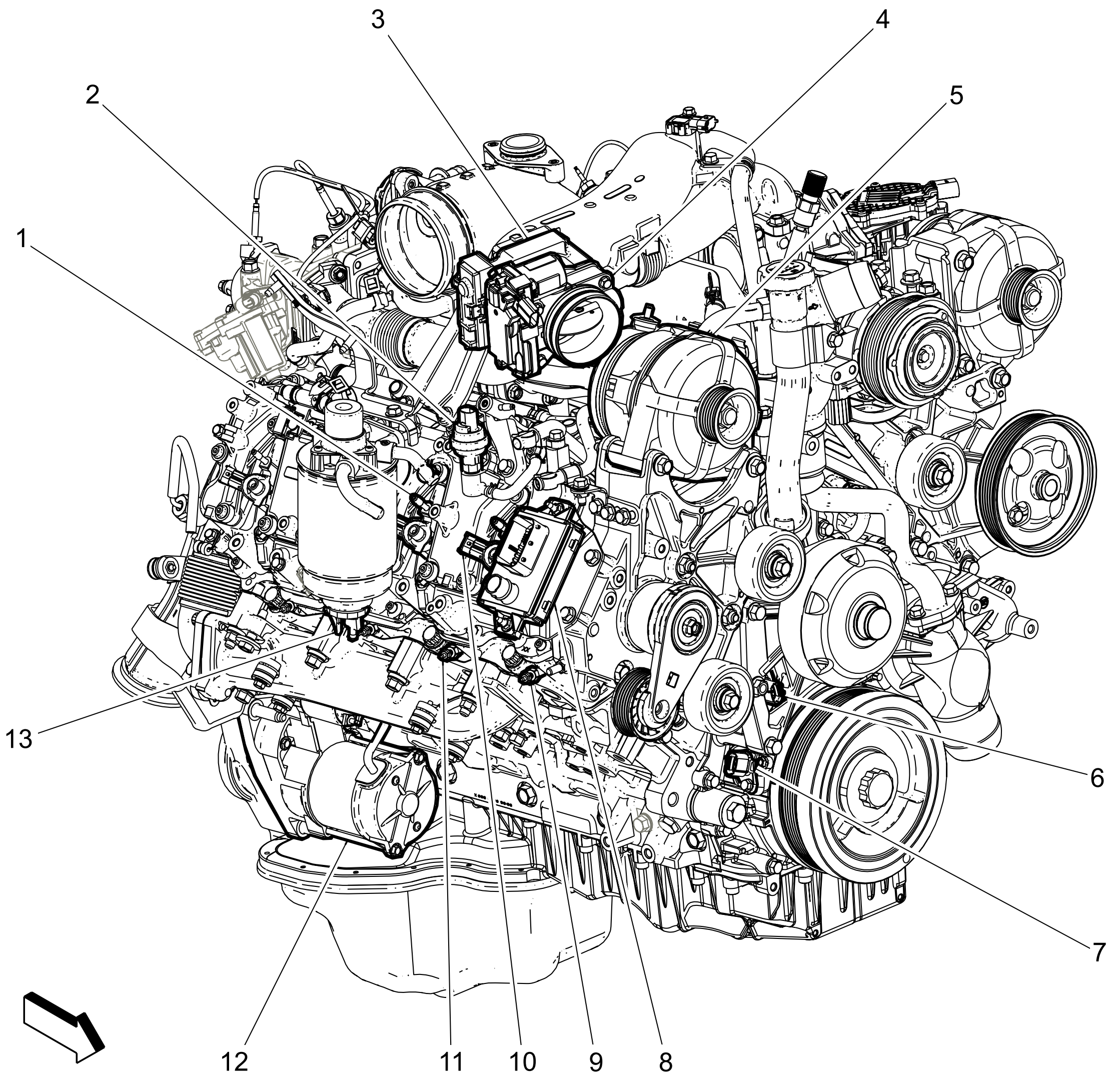
Top of the Engine Components (LML)



Items

1. Q18B Fuel Pressure Regulator 2 (LML)
2. B34 Engine Coolant Temperature Sensor
3. Q18A Fuel Pressure Regulator 1 (LML)
4. B48A Fuel Temperature Sensor 1

Right Side of Engine Components (LML)

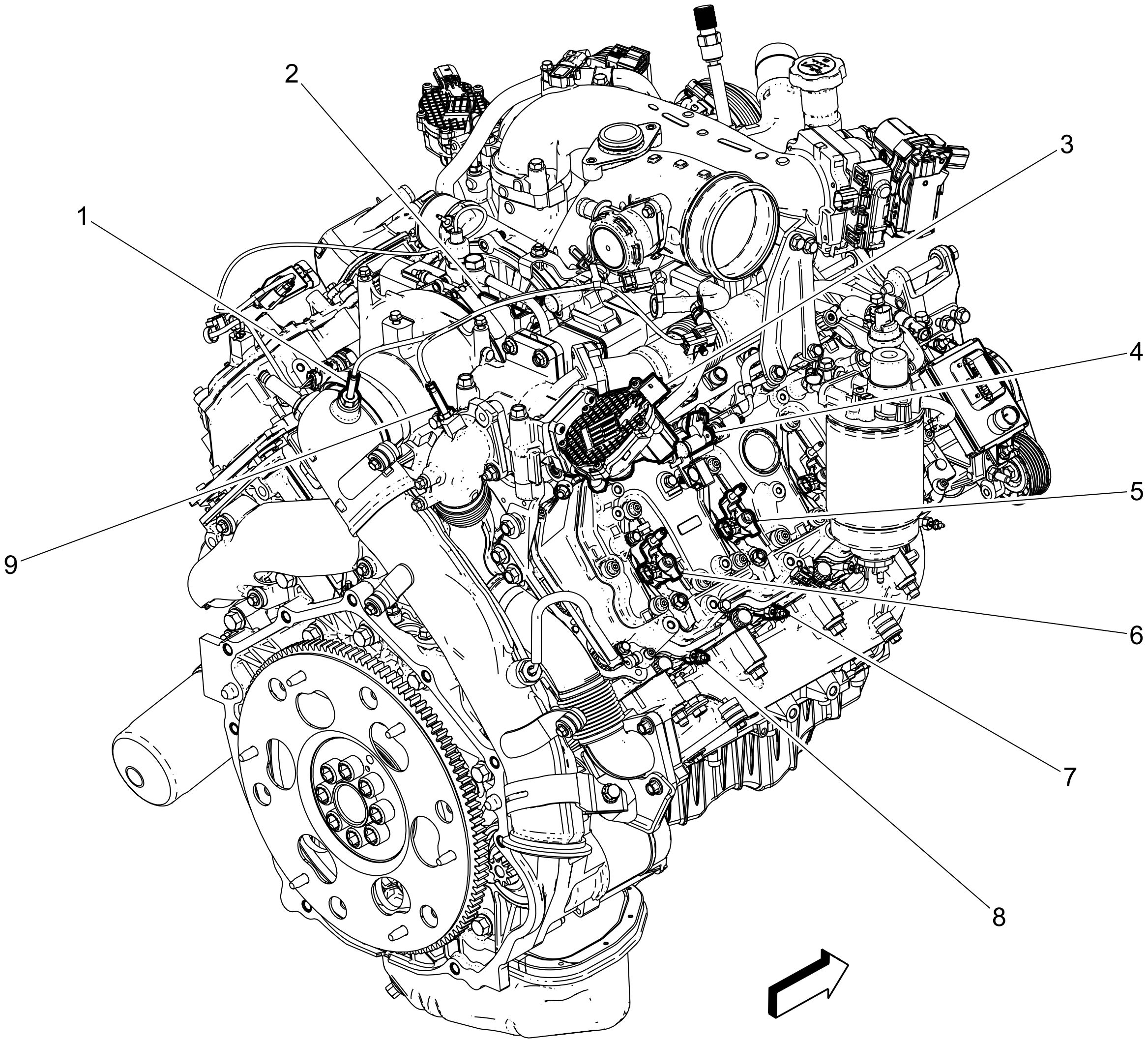


Items

1. Q17C Fuel Injector 3
2. B215 Fuel Filter Pressure Switch (LML)
3. E24 Intake Air Heater (LML)
4. Q38 Throttle Body
5. G13E Generator - Auxiliary (KH5 or KHB)
6. B23 Camshaft Position Sensor
7. B26 Crankshaft Position Sensor
8. K34 Glow Plug Control Module (LML)
9. E12A Glow Plug 1 (LML)
10. Q17A Fuel Injector 1
11. E12C Glow Plug 3 (LML)

11. E12C Glow Plug 3 (LML)
12. M64 Starter Motor
13. B116 Water in Fuel Sensor (LML)

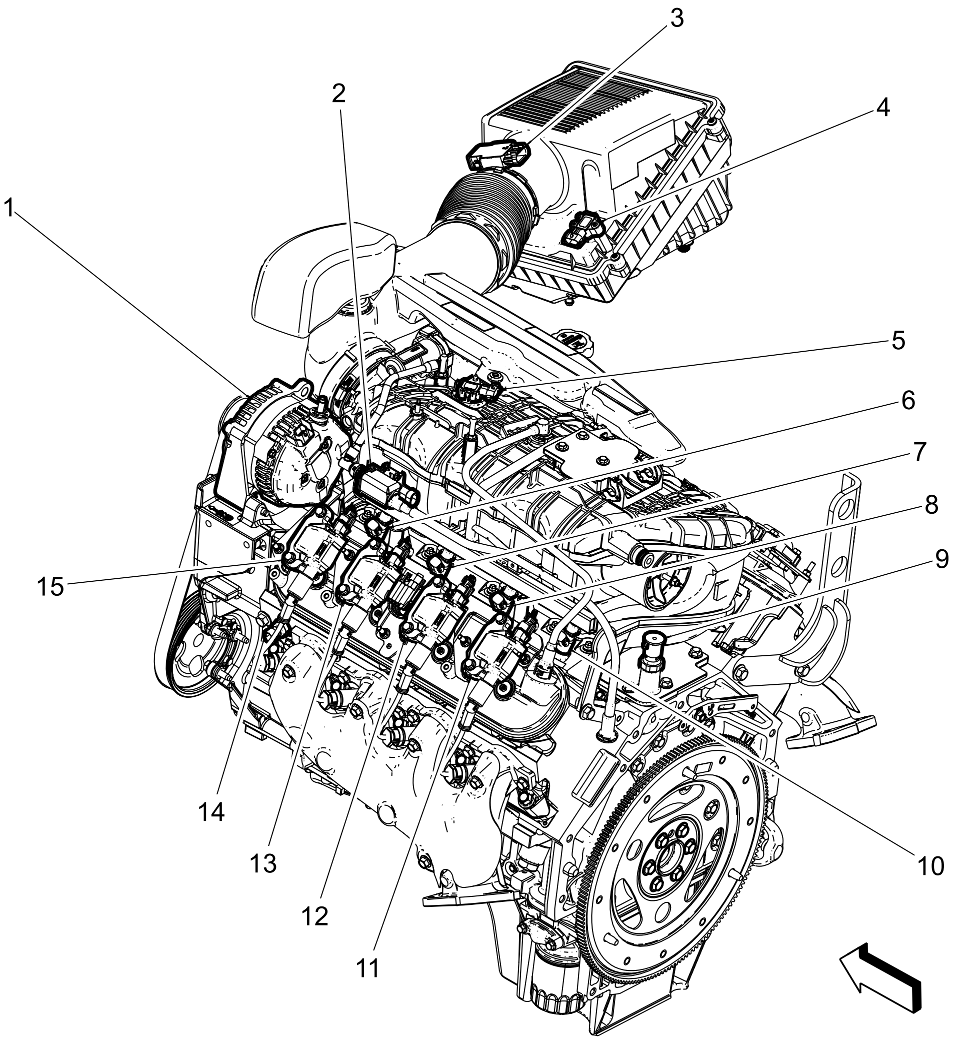
Right Rear Side of the Engine Components (LML)



Items

1. B131A Exhaust Temperature Sensor 1 (LML)
2. Q41 Turbocharger Vane Position Control Solenoid Valve (LML)
3. Q47 Exhaust Gas Recirculation Cooler Bypass Solenoid Valve (LML)
4. Q67 Exhaust Aftertreatment Fuel Injector (LML)
5. Q17E Fuel Injector 5
6. Q17G Fuel Injector 7
7. E12E Glow Plug 5 (LML)
8. E12G Glow Plug 7 (LML)
9. B130A Exhaust Gas Recirculation Temperature Sensor 1 (LML)

Left Side of Engine Components (L96)

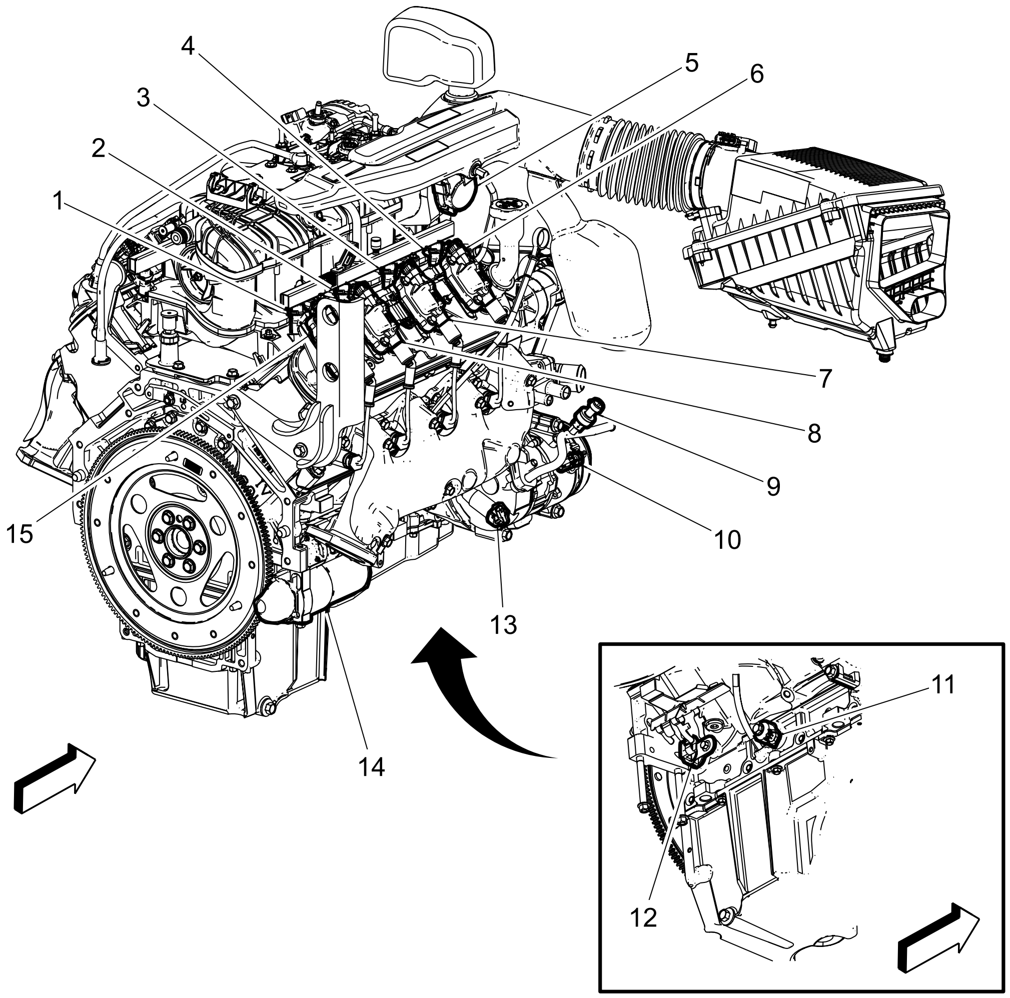


Items

1. G13 Generator
2. Q12 Evaporative Emission Purge Solenoid Valve (except LML)
3. B75B Mass Air Flow/Intake Air Temperature Sensor (2500 or 3500)
4. B192 Throttle Inlet Absolute Pressure Sensor (L96 or LC8)
5. B74 Manifold Absolute Pressure Sensor
6. Q17A Fuel Injector 1
7. Q17C Fuel Injector 3
8. Q17E Fuel Injector 5
9. B37B Engine Oil Pressure Sensor
10. Q17G Fuel Injector 7
11. T8G Ignition Coil 7 (L83, L86, L96 or LC8)

11. T8G Ignition Coil 7 (L83, L86, L96 or LC8)
12. T8E Ignition Coil 5 (except LML)
13. T8C Ignition Coil 3 (except LML)
14. B34 Engine Coolant Temperature Sensor
15. T8A Ignition Coil 1 (except LML)

Right Side of Engine Components (L96)



Items

1. Q17H Fuel Injector 8
2. Q17F Fuel Injector 6
3. Q17D Fuel Injector 4
4. Q17B Fuel Injector 2
5. Q38 Throttle Body
6. T8B Ignition Coil 2 (except LML)
7. T8D Ignition Coil 4 (except LML)
8. T8F Ignition Coil 6 (except LML)
9. B1 A/C Refrigerant Pressure Sensor (C67 or CJ2)
10. Q2 A/C Compressor Clutch (C67 or CJ2)
11. B68B Knock Sensor 2 (except LML)

11. B68B Knock Sensor 2 (except LML)

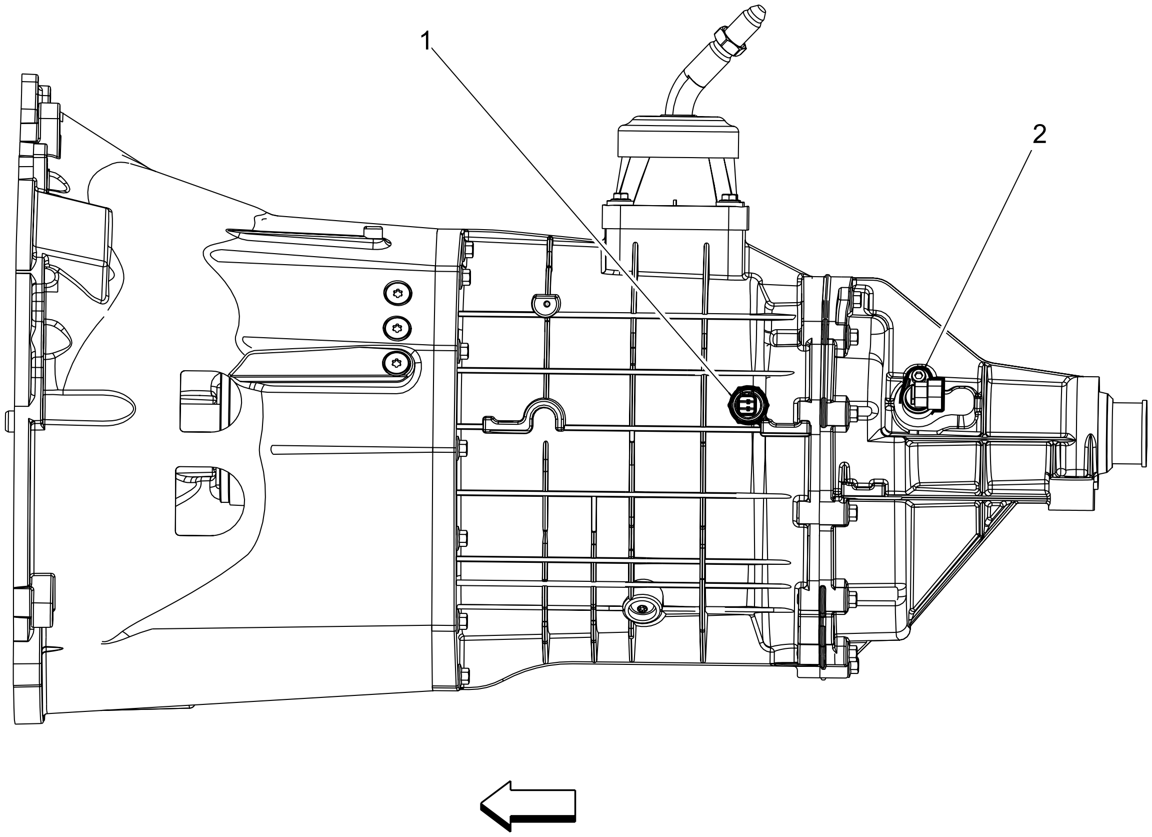
12. B26 Crankshaft Position Sensor

13. Q46 A/C Compressor Solenoid Valve (C67 or CJ2)

14. M64 Starter Motor

15. T8H Ignition Coil 8 (L83, L86, L96 or LC8)

Manual Transmission Components (MXW)

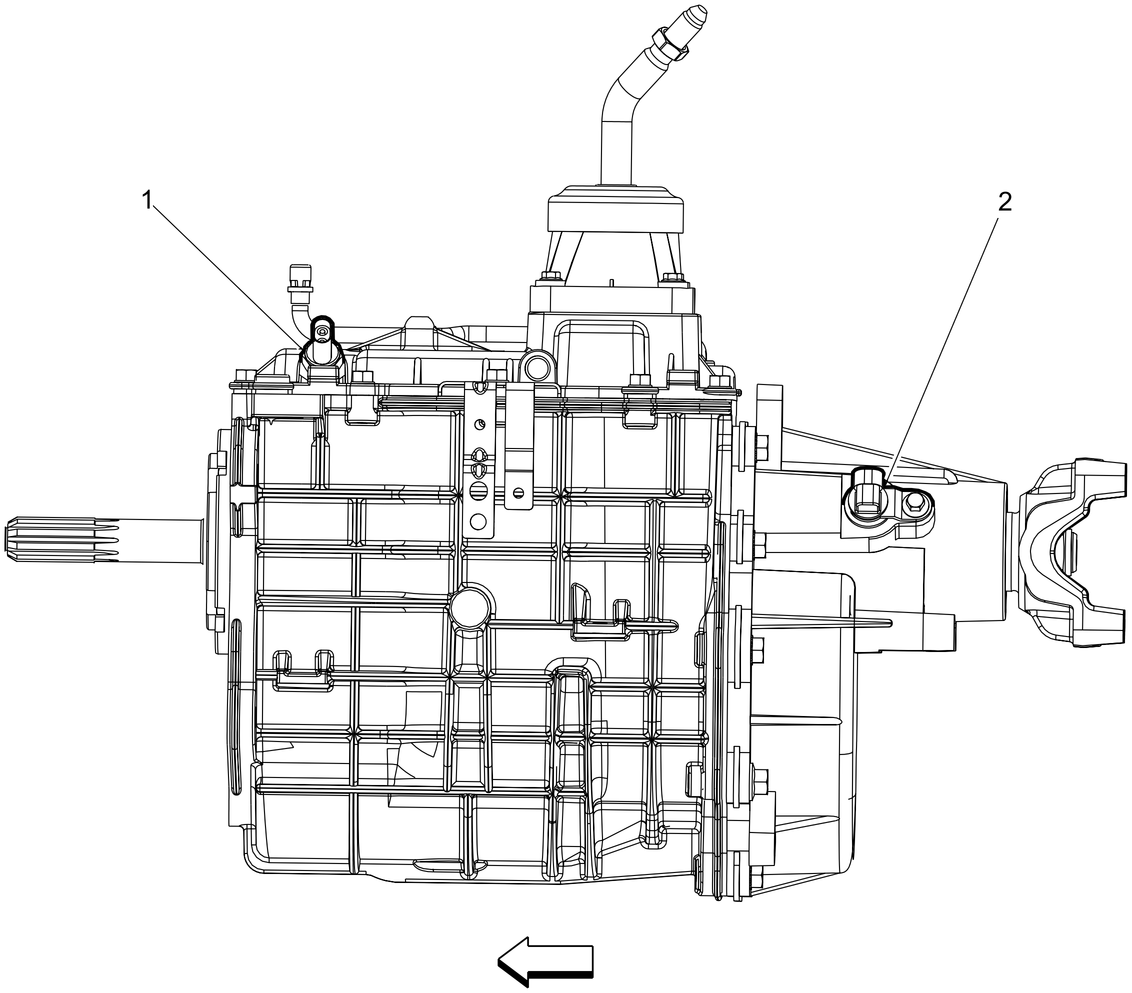


Items

1. B16 Backup Lamp Switch (M2P, MQ7 or MXW)

2. B115 Vehicle Speed Sensor (NQF, NQG or NQH)

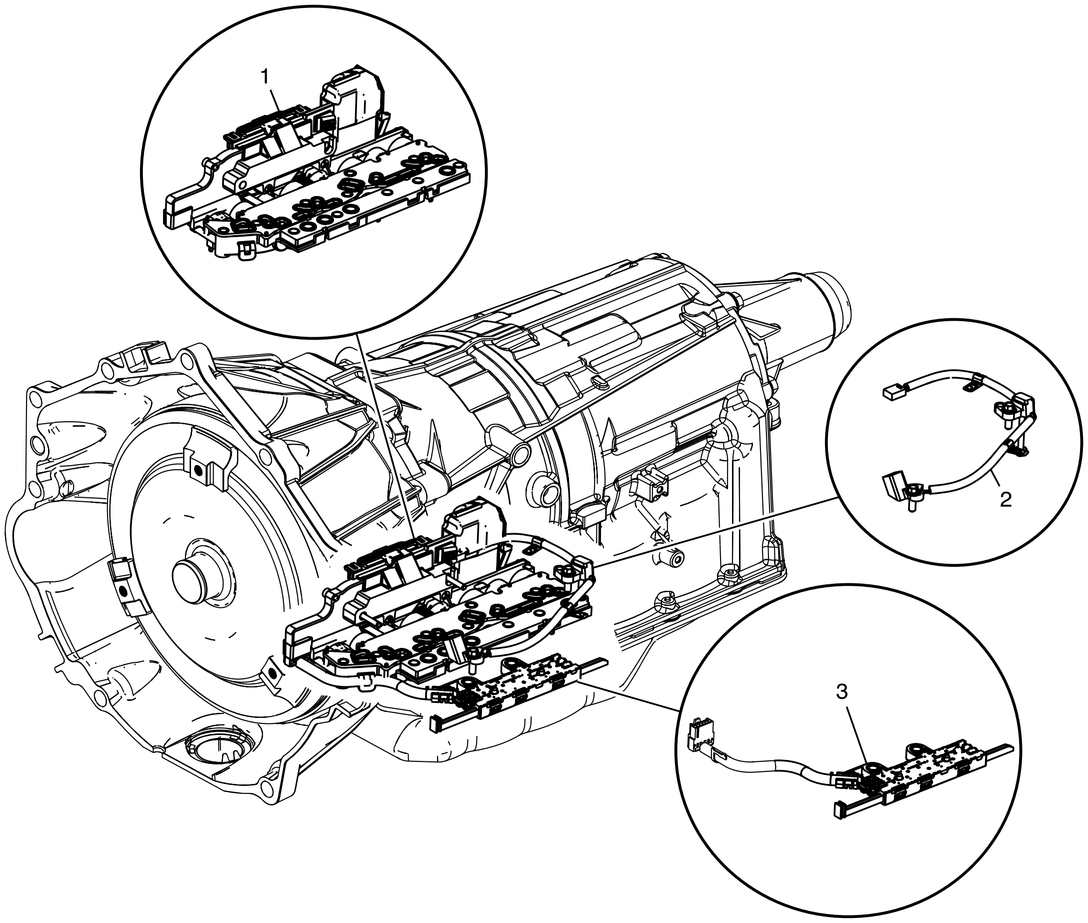
Manual Transmission Components (MQ7)



Items

1. B16 Backup Lamp Switch (M2P, MQ7 or MXW)
2. B115 Vehicle Speed Sensor (NQF, NQG or NQH)

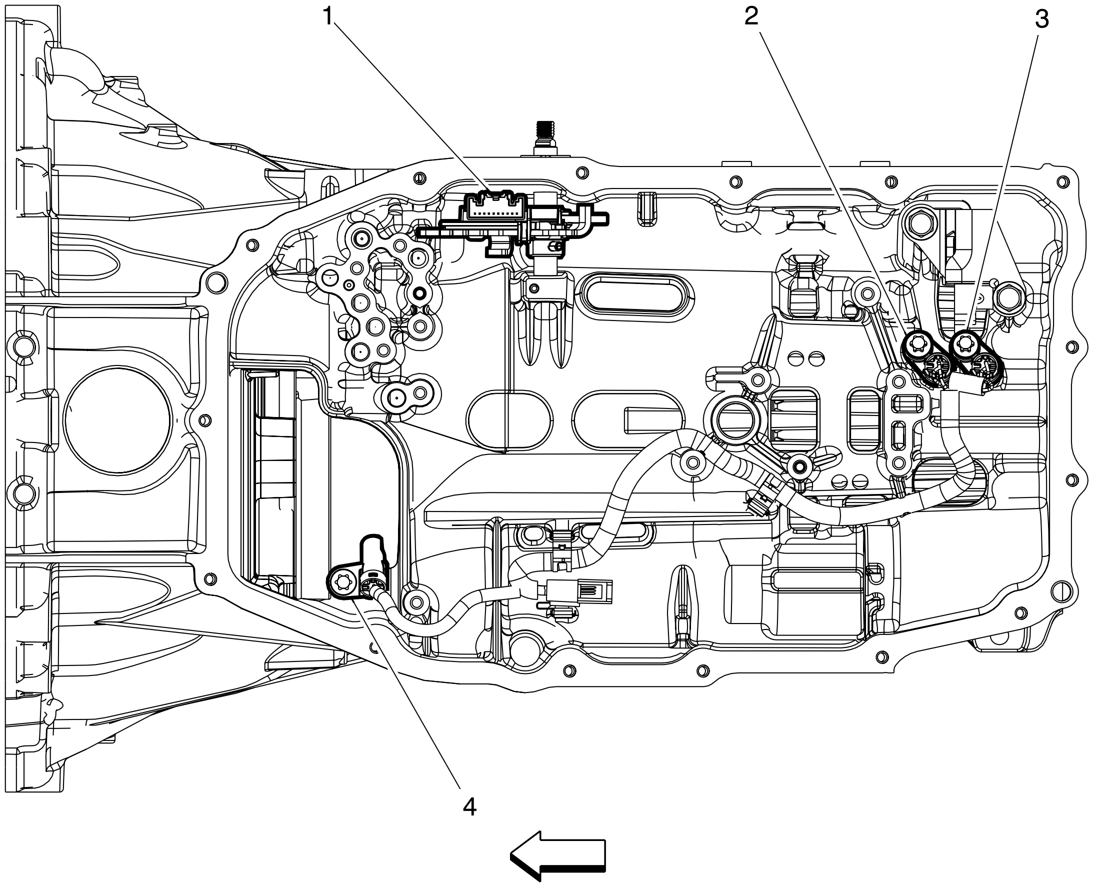
Automatic Transmission Internal Components (MYC or MYD)



Items

1. Q8 Control Solenoid Valve Assembly (MYC or MYD)
2. B14A Transmission Output Shaft Speed Sensor
3. B15 Transmission Internal Mode Switch (M5U, MW7, MYC or MYD)

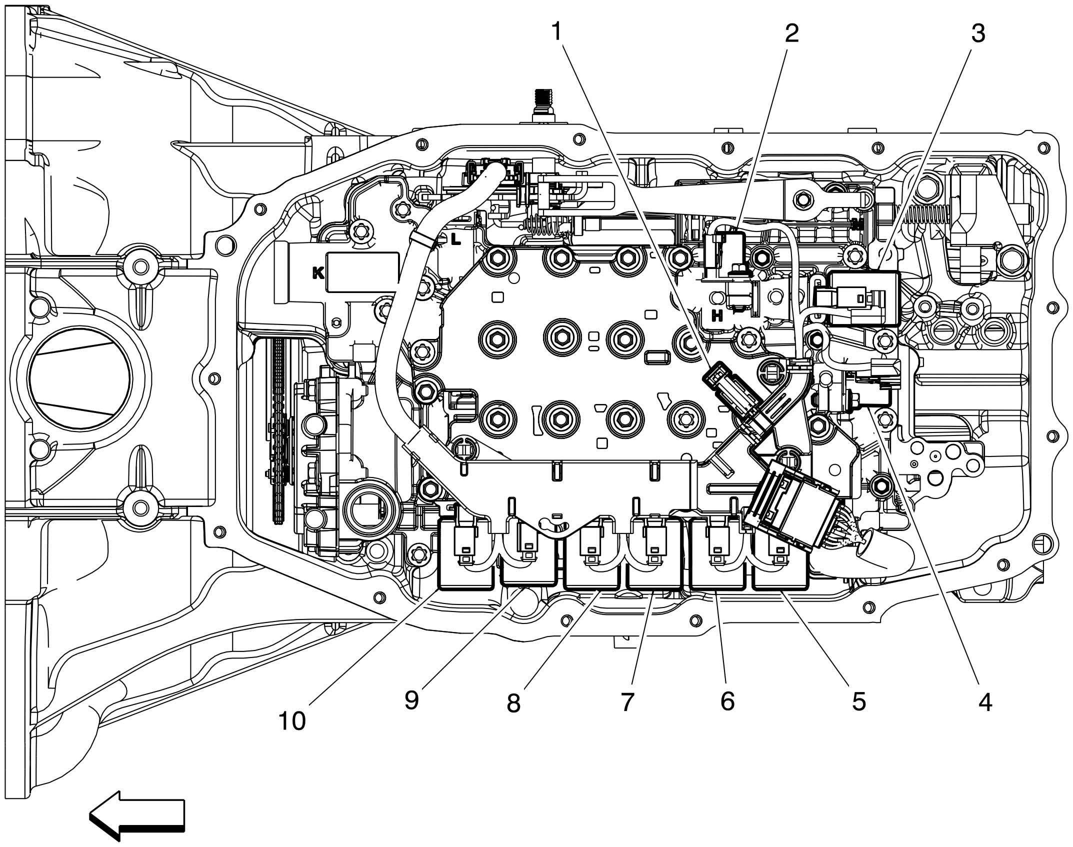
Automatic Transmission Case Components (M5U)



Items

1. B15 Transmission Internal Mode Switch (M5U, MW7, MYC or MYD)
2. B14D Transmission Intermediate Shaft Speed Sensor (M5U)
3. B14A Transmission Output Shaft Speed Sensor
4. B14C Transmission Input Shaft Speed Sensor (M5U, MYC or MYD)

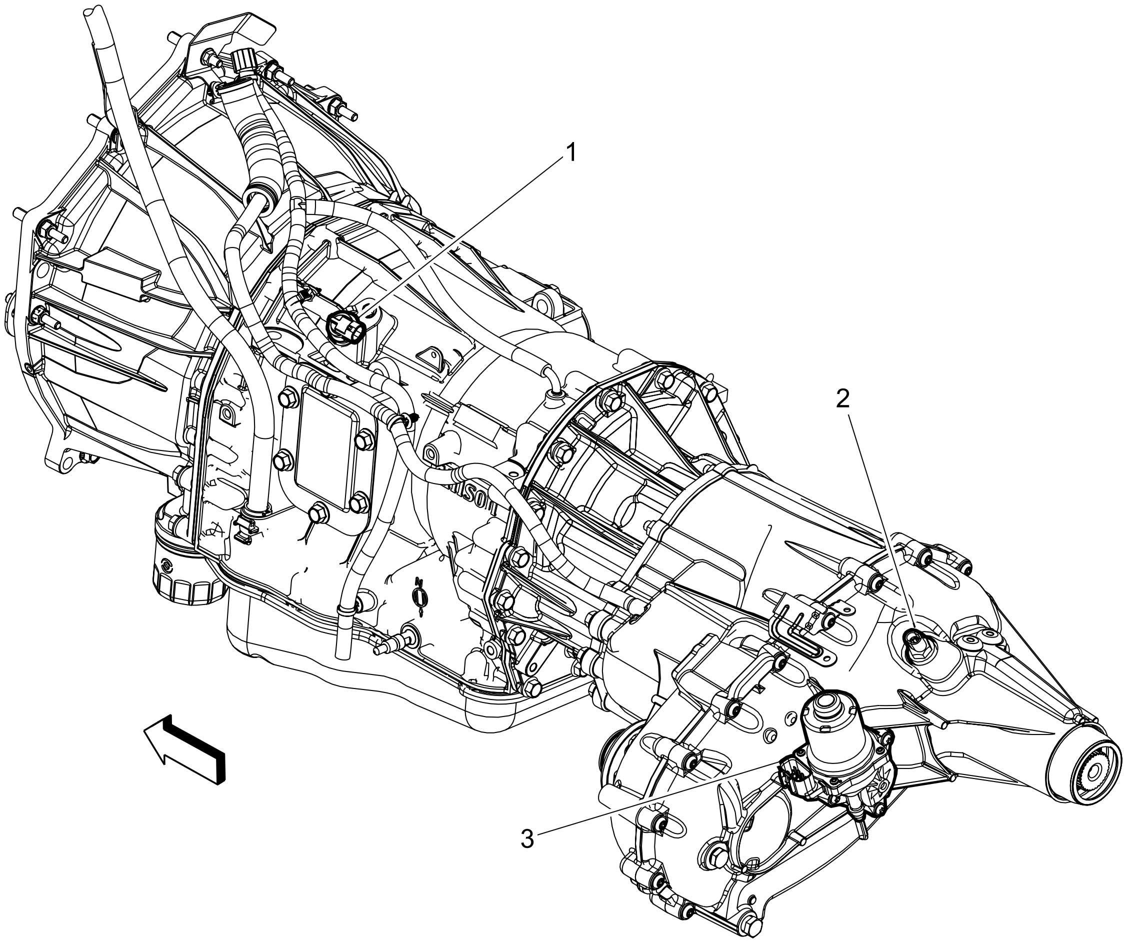
Automatic Transmission Valve Body Components (M5U)



Items

1. B13 Transmission Fluid Temperature Sensor (M5U, MW7, MYC or MYD)
2. Q77H Transmission Control Solenoid Valve 8 (M5U)
3. Q77F Transmission Control Solenoid Valve 6 (M5U)
4. Q77J Transmission Control Solenoid Valve 9 (M5U)
5. Q77B Transmission Control Solenoid Valve 2 (M5U)
6. Q77A Transmission Control Solenoid Valve 1 (M5U)
7. Q77E Transmission Control Solenoid Valve 5 (M5U)
8. Q77C Transmission Control Solenoid Valve 3 (M5U)
9. Q77D Transmission Control Solenoid Valve 4 (M5U)
10. Q77G Transmission Control Solenoid Valve 7 (M5U)

Left Side of Transmission Components (MW7)



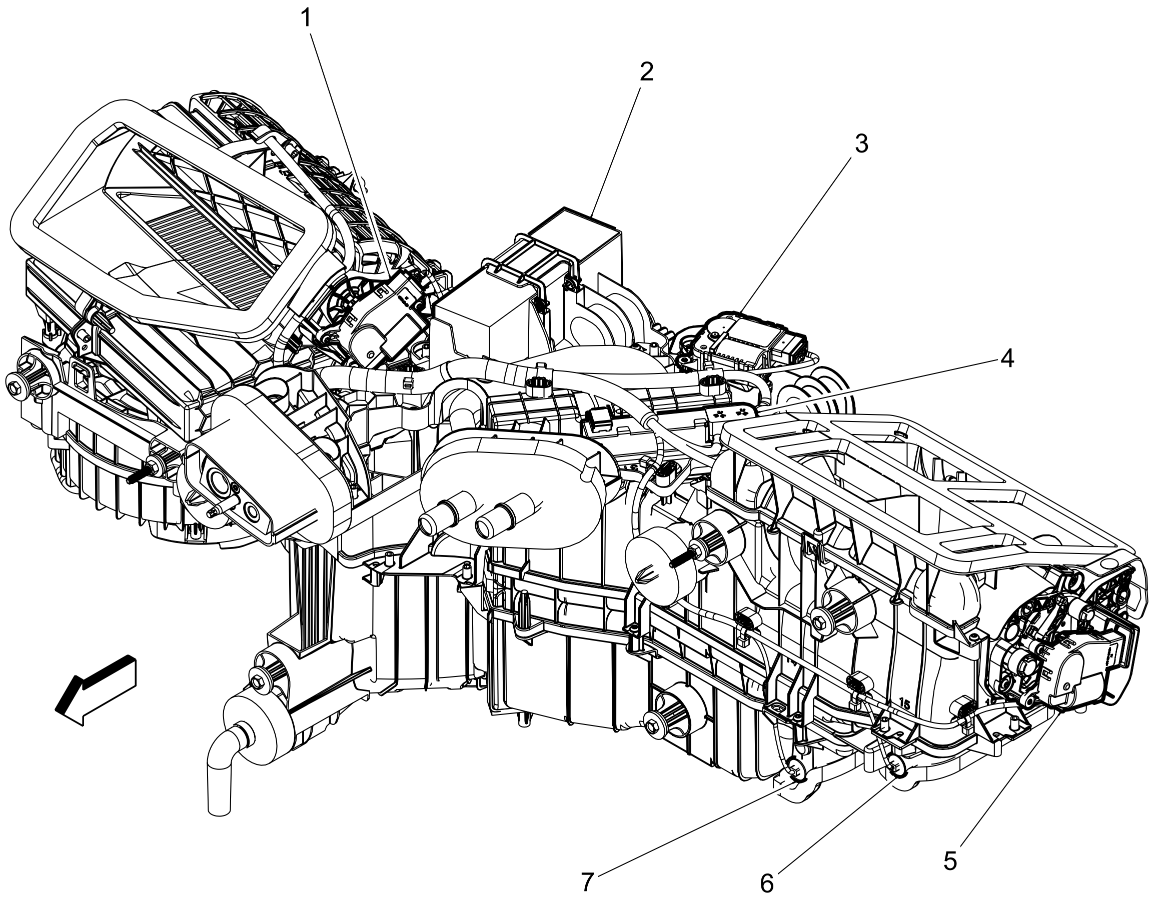
Items

1. B14C Transmission Input Shaft Speed Sensor (M5U, MYC or MYD)

2. B14A Transmission Output Shaft Speed Sensor

3. A16 Transfer Case Motor (NQF or NQH)

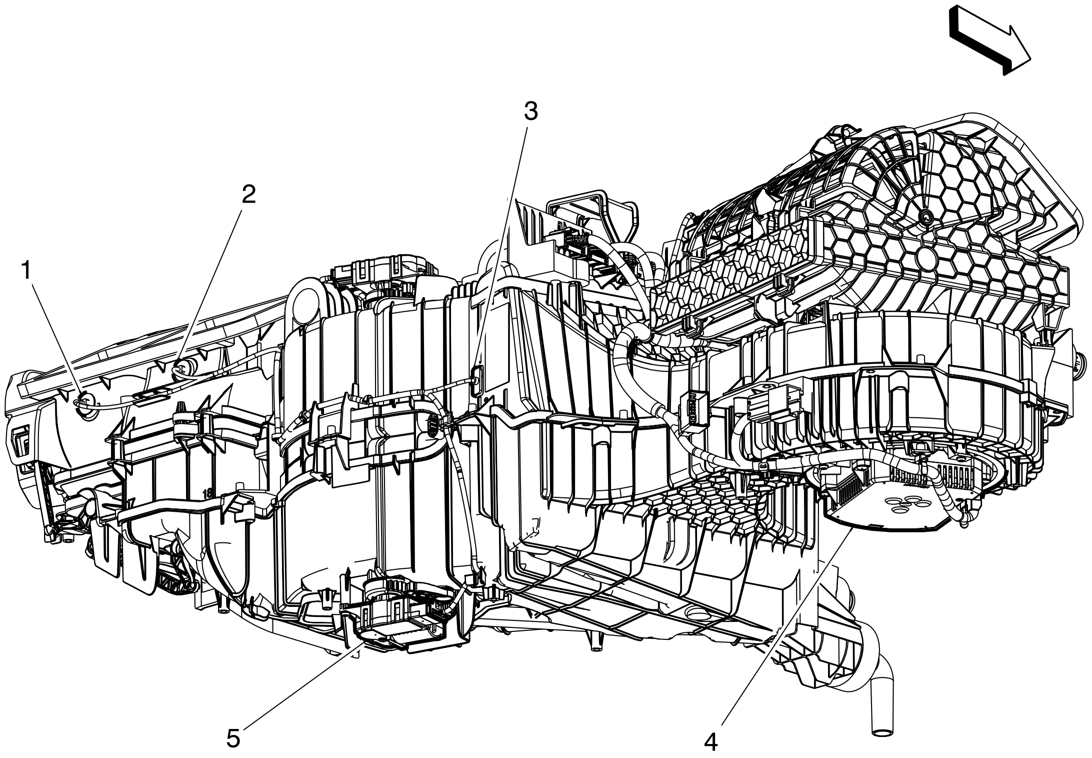
Front of HVAC Assembly Components



Items

1. M4 Air Inlet Door Actuator
2. K33 HVAC Control Module
3. M6L Air Temperature Door Actuator - Left
4. E40 Electrical Auxiliary Heater (LML)
5. M37L Mode Door Actuator - Left
6. B7D Air Temperature Sensor - Duct Left Lower (CJ2)
7. B7E Air Temperature Sensor - Duct Right Lower (CJ2)

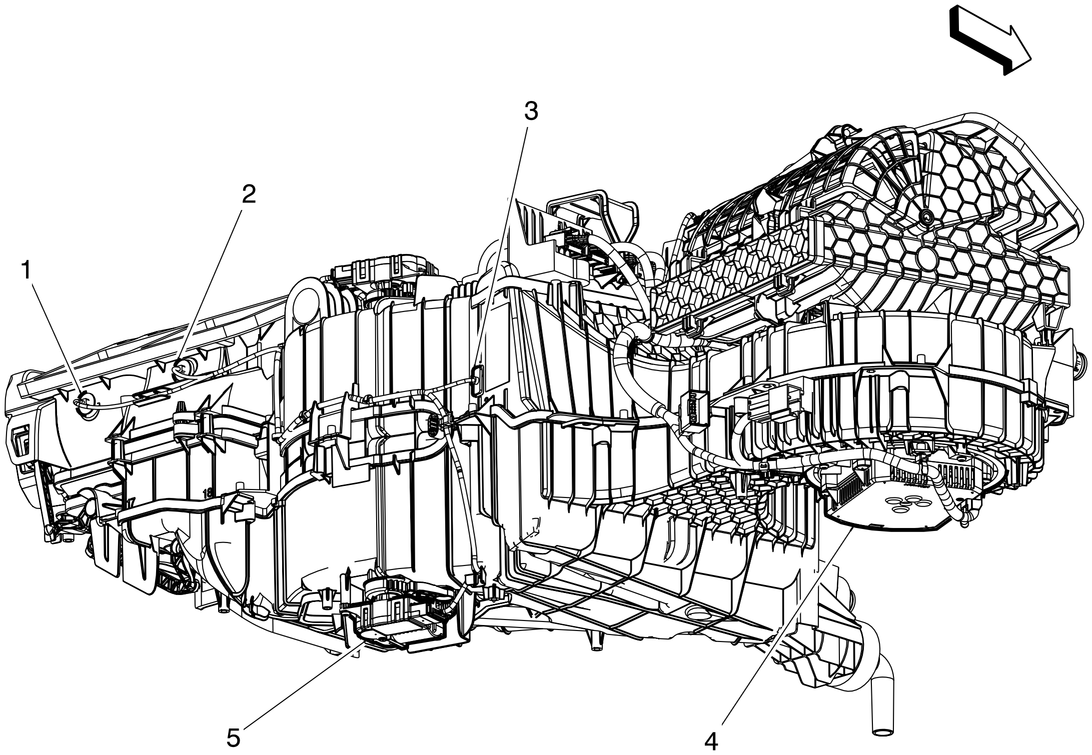
Back of HVAC Assembly Components



Items

1. B7H Air Temperature Sensor - Duct Left Upper (CJ2)
2. B7J Air Temperature Sensor - Duct Right Upper (CJ2)
3. B39 A/C Evaporator Temperature Sensor (C67 or CJ2)
4. M8 Blower Motor
5. M6R Air Temperature Door Actuator - Right (CJ2)

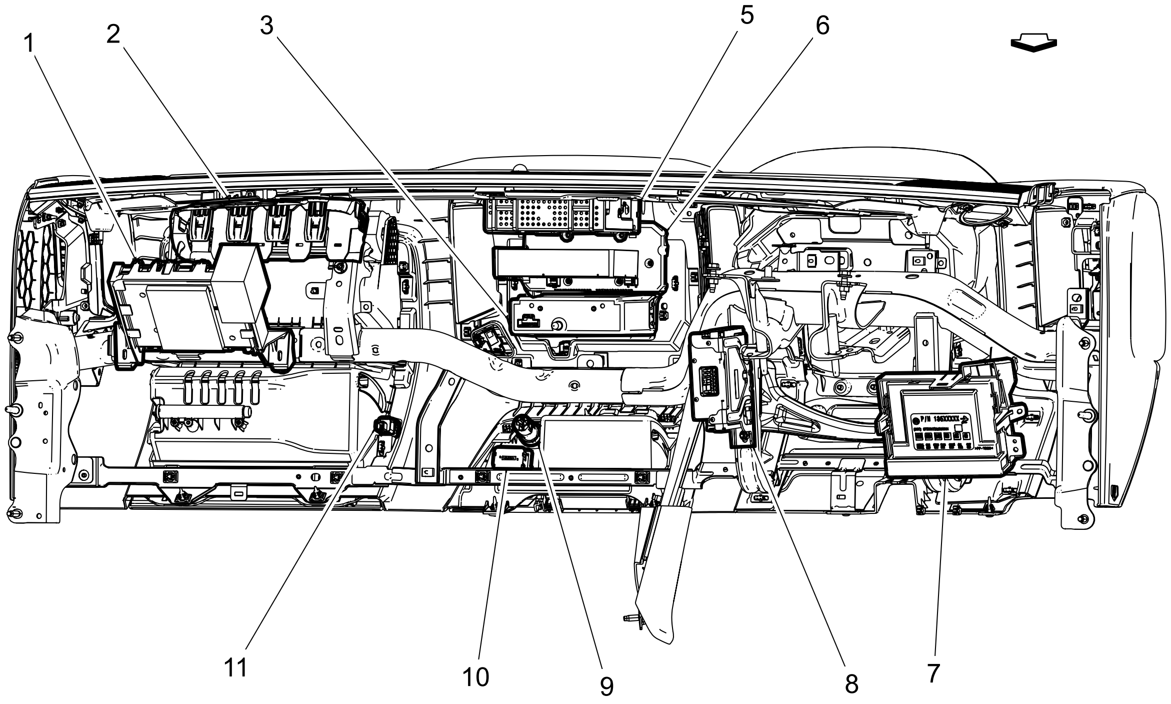
Back of HVAC Assembly Components



Items

1. B7H Air Temperature Sensor - Duct Left Upper (CJ2)
2. B7J Air Temperature Sensor - Duct Right Upper (CJ2)
3. B39 A/C Evaporator Temperature Sensor (C67 or CJ2)
4. M8 Blower Motor
5. M6R Air Temperature Door Actuator - Right (CJ2)

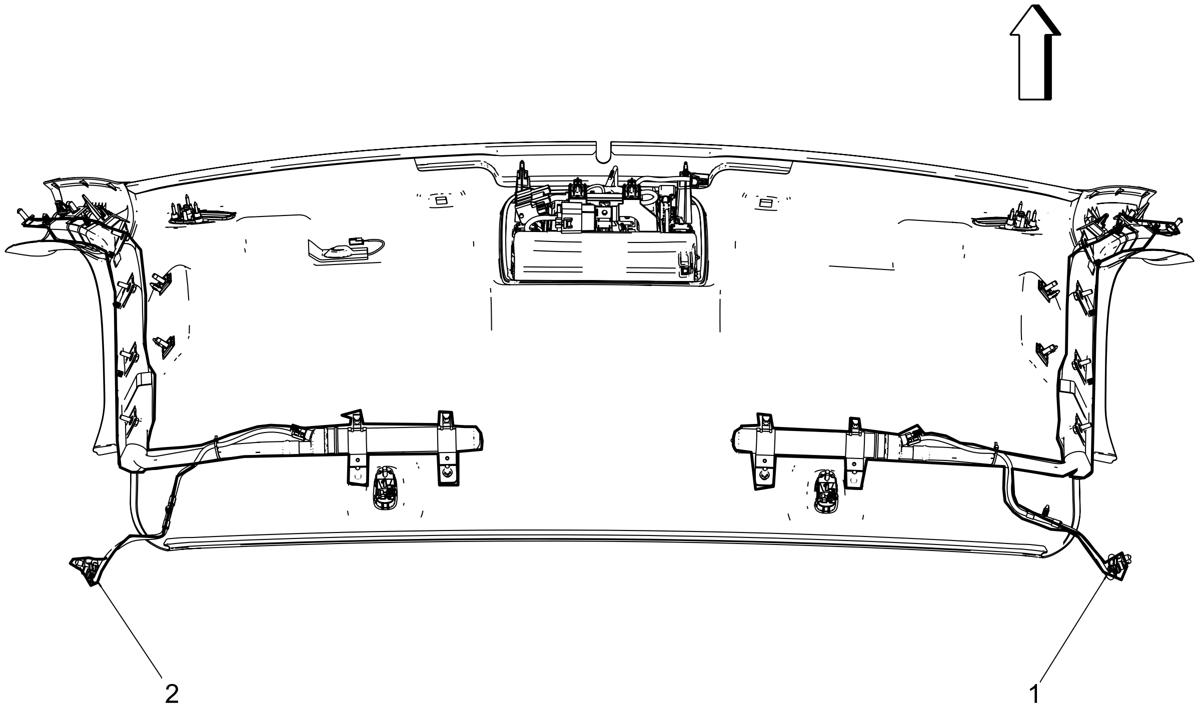
Rear of Instrument Panel Components



Items

1. K74 Human Machine Interface Control Module (IO4, IO5 or IO6)
2. F101 Passenger Instrument Panel Air Bag
3. A33 Media Disc Player (TG5 or U42)
5. A11 Radio
6. K73 Telematics Communication Interface Control Module (UE1)
7. K9 Body Control Module
8. T1 Accessory DC/AC Power Inverter Module (KI4 or KI5)
9. X80J Accessory Power Receptacle - Instrument Panel 1 (D07)
10. X81 Accessory Power Receptacle - 110V AC (KI4)
11. S135 Rollover Protection Disable Switch (C9I)

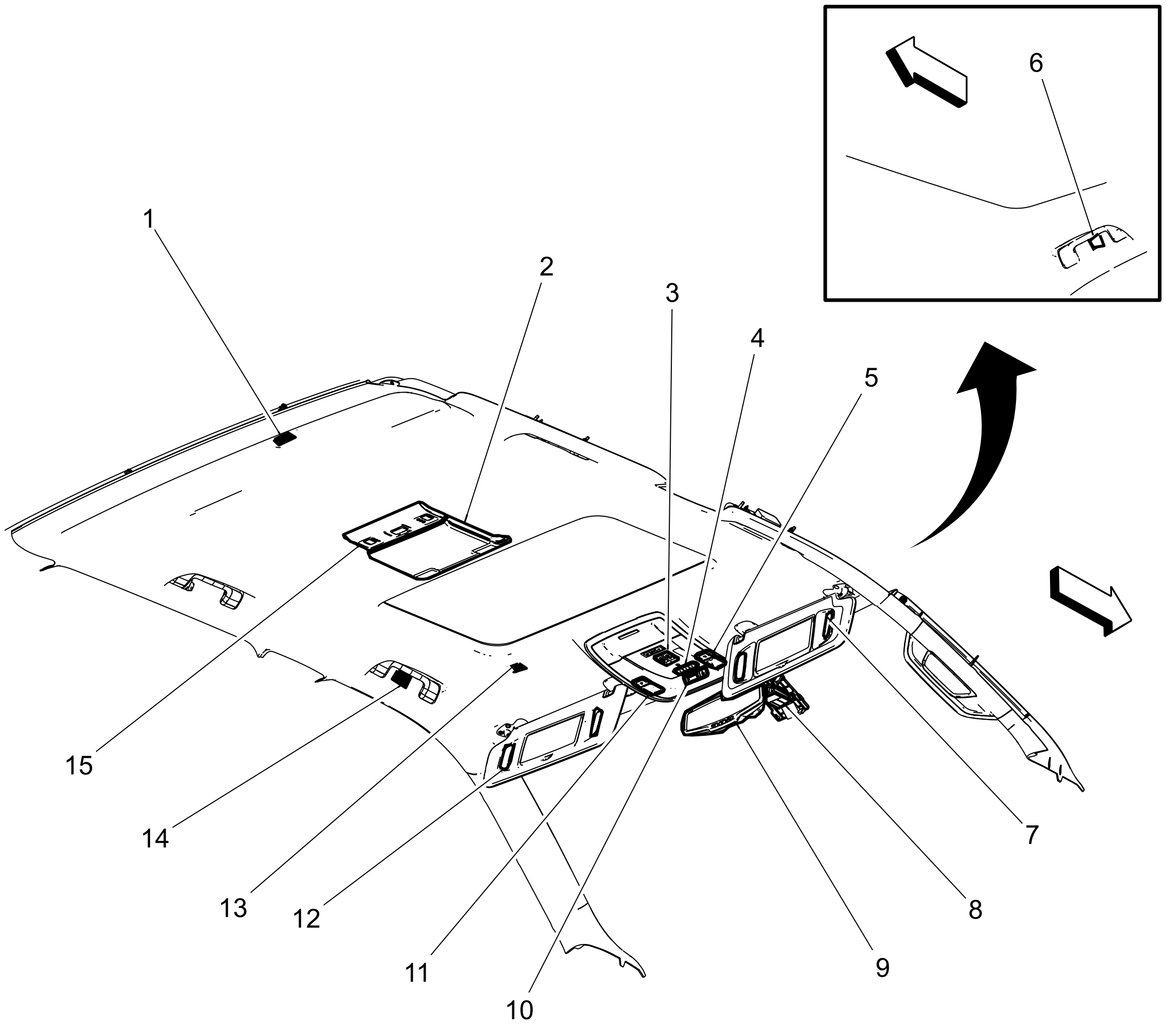
Roof Rail Air Bags



Items

1. F105R Roof Rail Air Bag - Right (AY0)
2. F105L Roof Rail Air Bag - Left (AY0)

Headliner Components

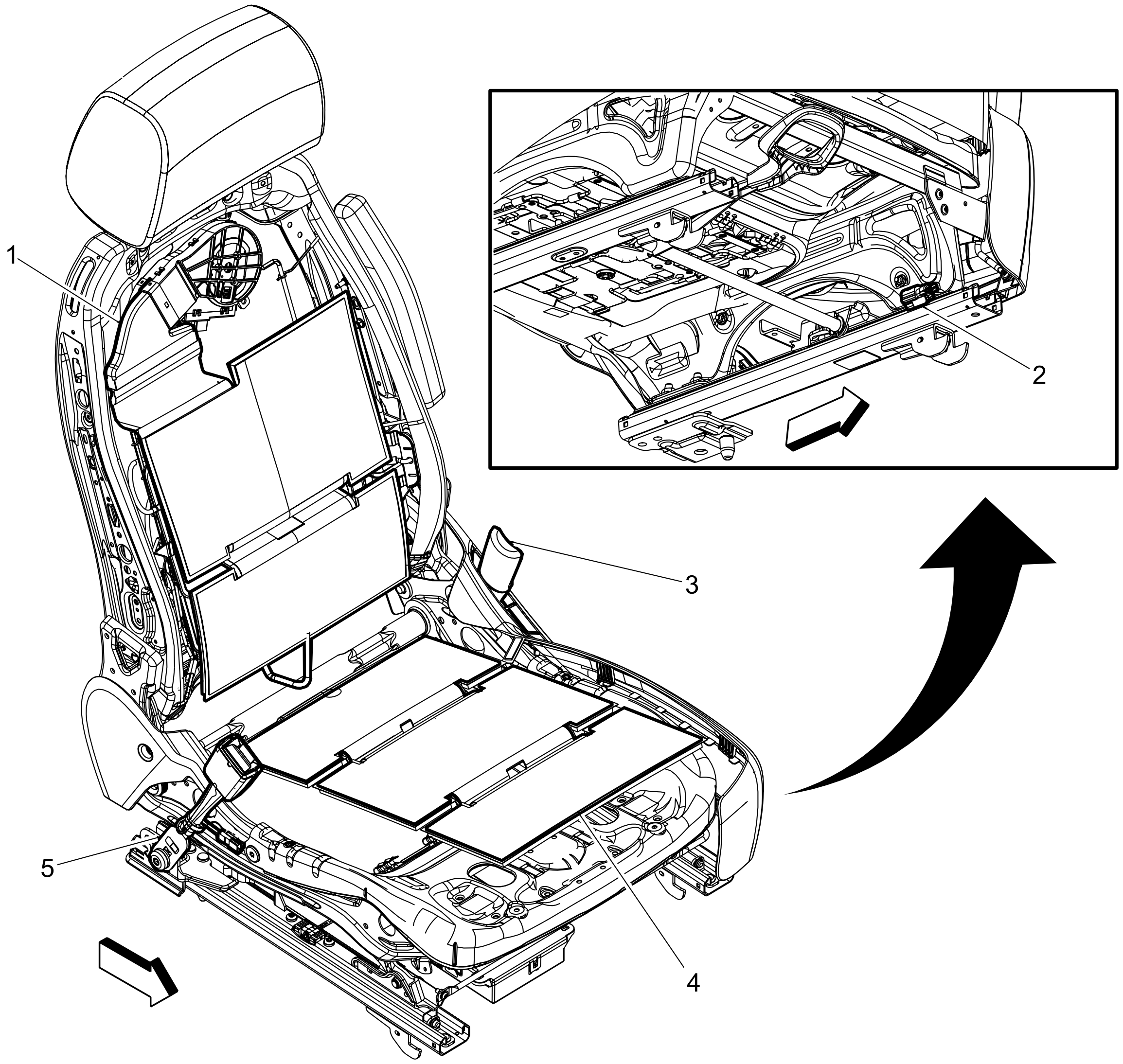


Items

1. B77R Radio Volume Compensator Interior Noise Microphone - Rear (NKC)
2. P22A Video Display - 2nd Row (U42)
3. S72 Sunroof Switch (CF5)
4. S25 Garage Door Opener (UG1)
5. E37ER Dome/Reading Lamps - Front Overhead Console Right
6. B77RF Radio Volume Compensator Interior Noise Microphone - Right Front (NKC)
7. E31R Sunshade Mirror Lamp - Right (DH6)
8. K109 Frontview Camera Module (UFL)
9. A10 Inside Rearview Mirror (DD8 or UE1)
10. P14 Passenger Air Bag Disabled Indicator
11. E37EL Dome/Reading Lamps - Front Overhead Console Left

11. E37EL Dome/Reading Lamps - Front Overhead Console Left
12. E31L Sunshade Mirror Lamp - Left (DH6)
13. B24 Cellular Phone Microphone (IO4, IO5, IO6 or UE1)
14. B77LF Radio Volume Compensator Interior Noise Microphone - Left Front (NKC)
15. E37B Dome/Reading Lamps - 2nd Row (Extended or Crew Cab without U42)

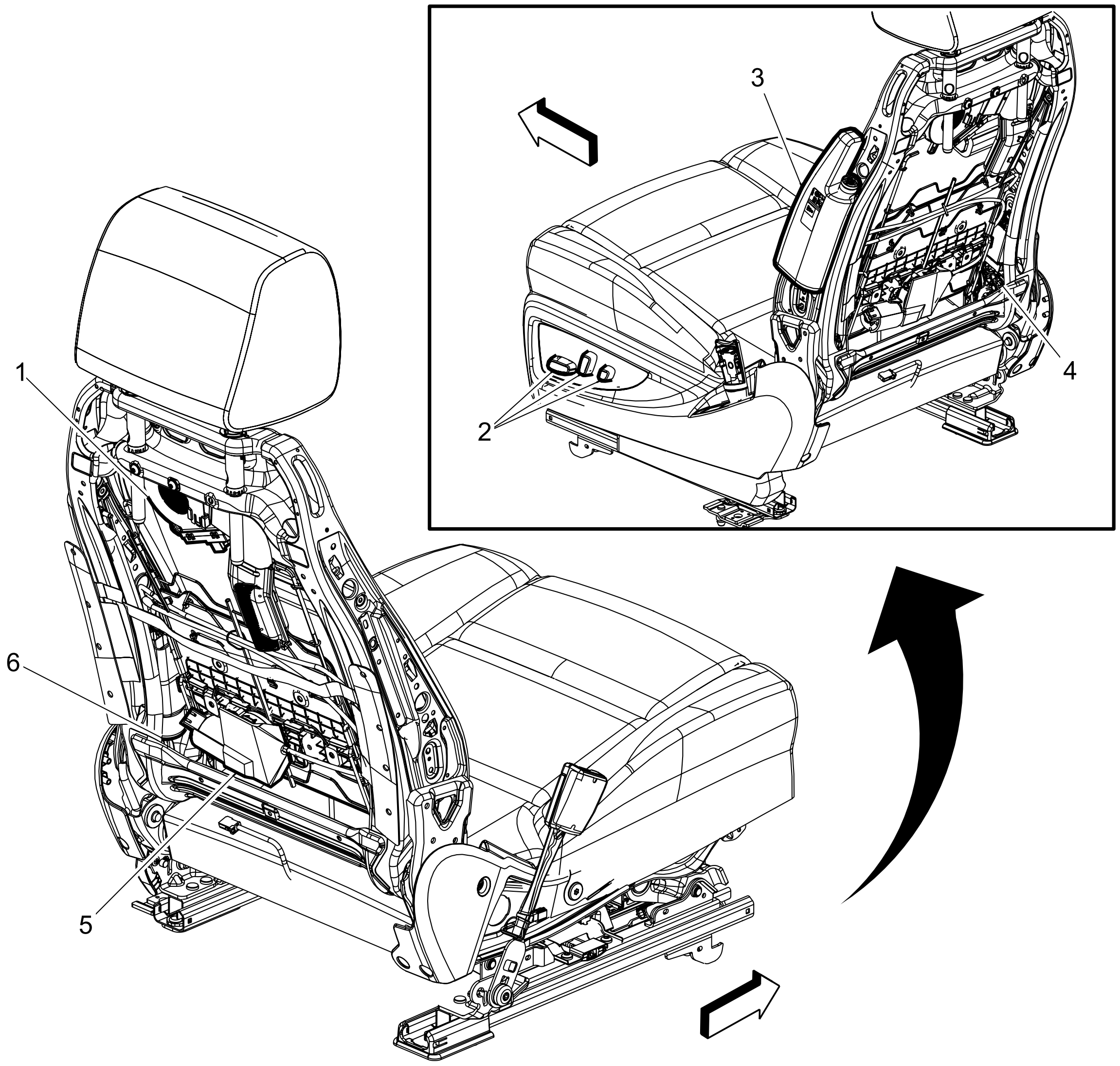
Front of Driver Seat Components



Items

1. E14A Seat Heating Element - Driver Back (KA1)
2. B62D Seat Position Sensor - Driver (1500)
3. F113D Seat Belt Anchor Pretensioner - Driver
4. E14B Seat Heating Element - Driver Cushion (KA1)
5. B153D Seat Belt Buckle - Driver

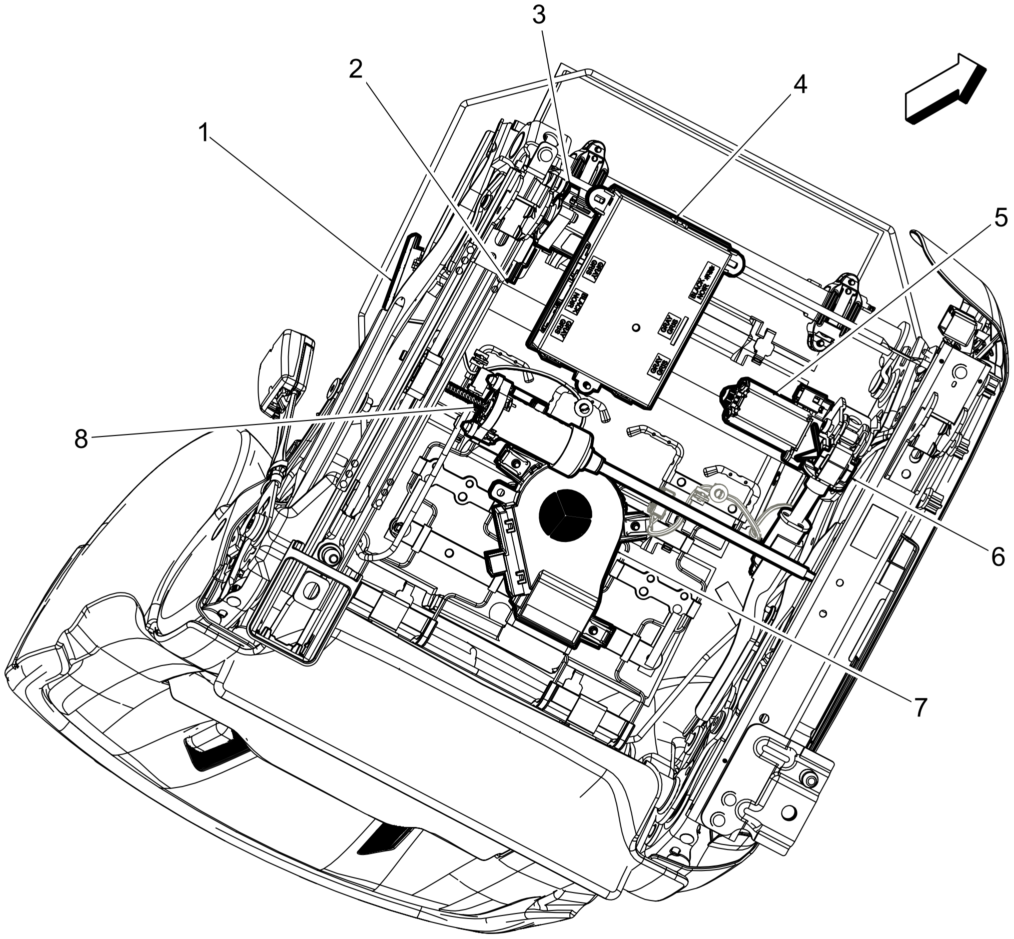
Back of Driver Seat Components



Items

1. K53D Seat Blower Assembly - Driver Back (KB6)
2. S64D Seat Adjuster Switch - Driver
3. F106D Seat Side Air Bag - Driver (AY0)
4. M56D Seat Recline Motor - Driver
5. M52D Seat Lumbar Support Horizontal Motor - Driver
6. A14D Seat Lumbar Support Pump - Driver

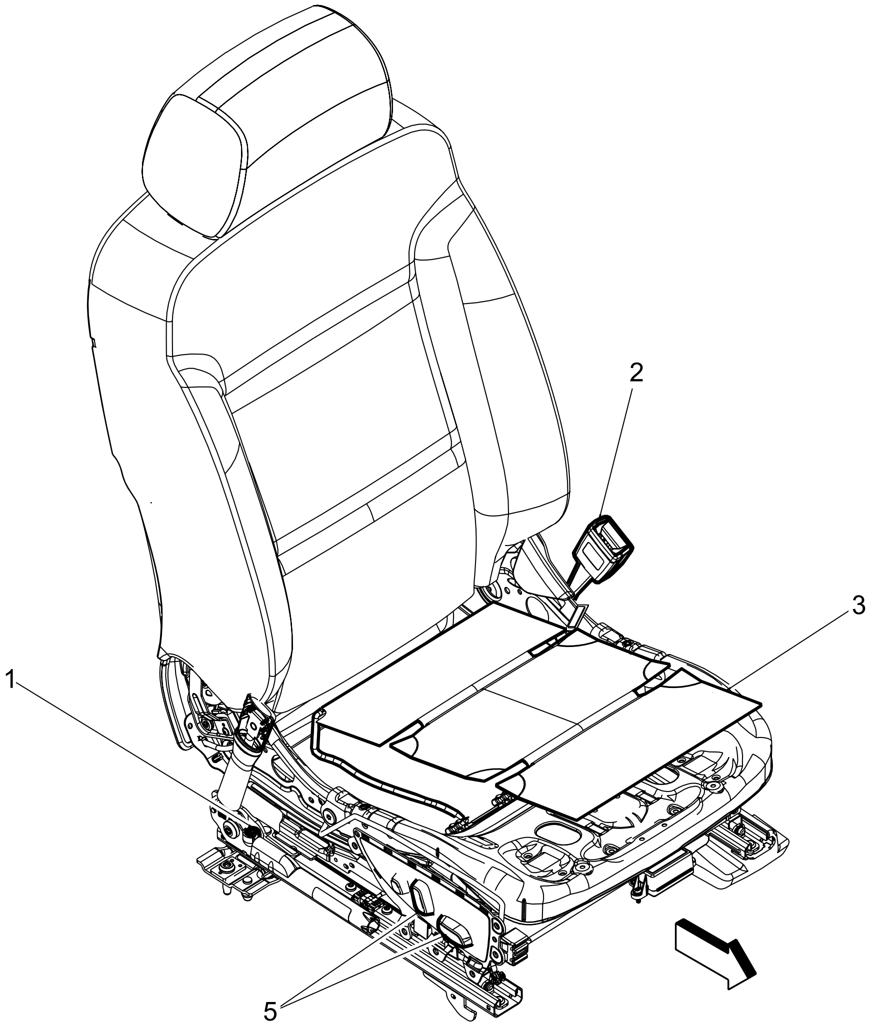
Bottom of Driver Seat Components



Items

1. P45LR Seat Haptic Movement Motor - Driver Left Rear (UEU or UFL)
2. B62D Seat Position Sensor - Driver (1500)
3. M51D Seat Horizontal Motor - Driver
4. A45
5. M50D Seat Front Vertical Motor - Driver
6. P45RR Seat Haptic Movement Motor - Driver Right Rear (UEU or UFL)
7. K55D Seat Blower Assembly - Driver Cushion (KB6)
8. M55D Seat Rear Vertical Motor - Driver

Front of Passenger Seat Components



Items

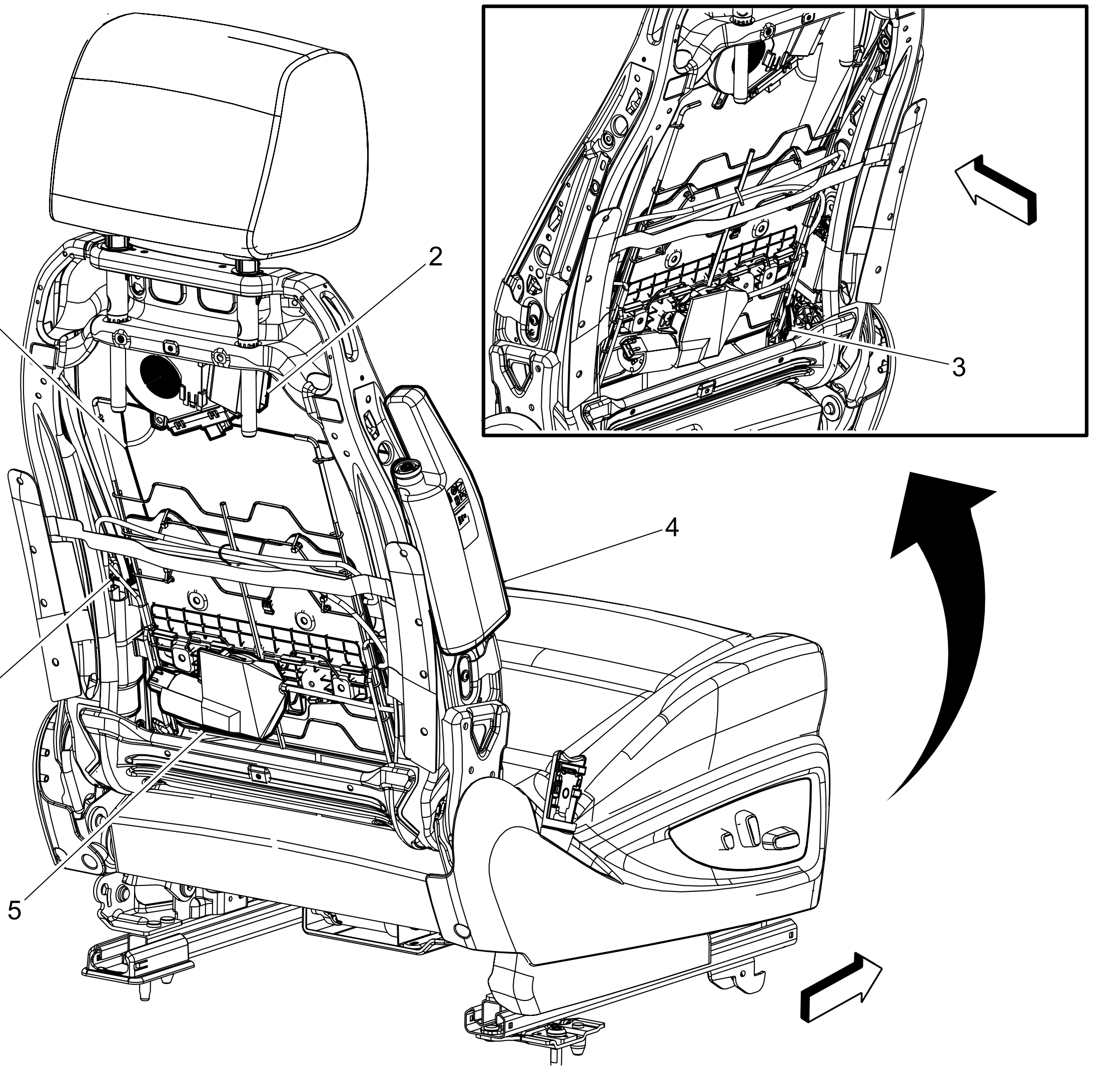
1. F113P Seat Belt Anchor Pretensioner - Passenger

2. B153P Seat Belt Buckle - Passenger

3. E14D Seat Heating Element - Passenger Cushion (KA1)

5. S64P Seat Adjuster Switch - Passenger

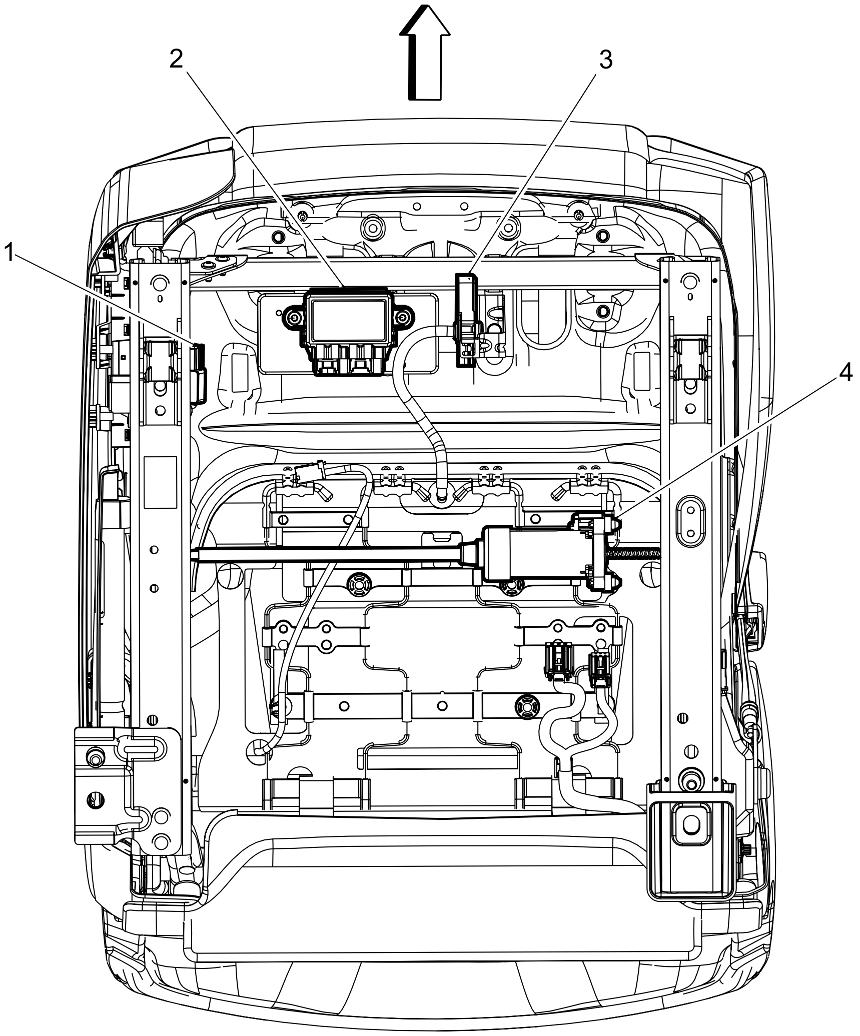
Back of Passenger Seat Components



Items

1. E14C Seat Heating Element - Passenger Back (KA1)
2. K53P Seat Blower Assembly - Passenger Back (KB6)
3. M56P Seat Recline Motor - Passenger
4. F106P Seat Side Air Bag - Passenger (AY0)
5. M52P Seat Lumbar Support Horizontal Motor - Passenger
6. A14P Seat Lumbar Support Pump - Passenger

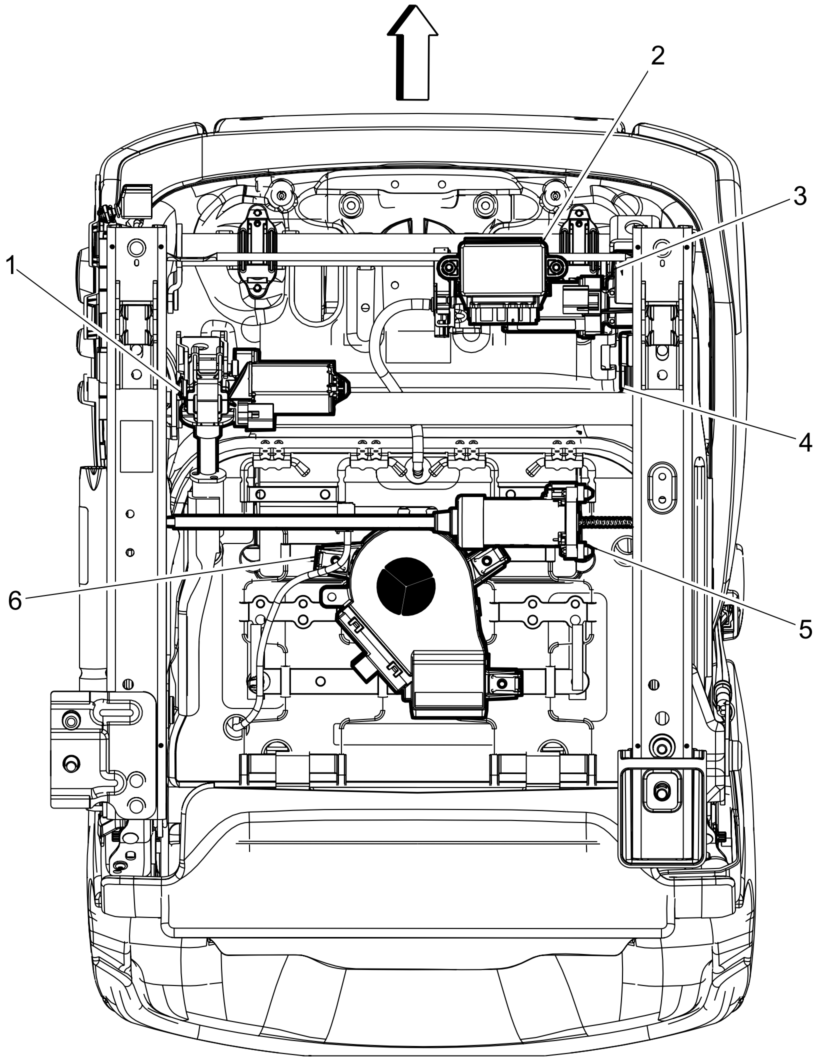
Bottom of Passenger Seat Components (without GAJ or Y91)



Items

1. B62P Seat Position Sensor - Passenger (1500)
2. K29 Seat Heating Control Module (KA1 without KB6)
3. K85 Passenger Presence Module (AL0)
4. M51P Seat Horizontal Motor - Passenger

Bottom of Passenger Seat Components (GAJ or Y91)

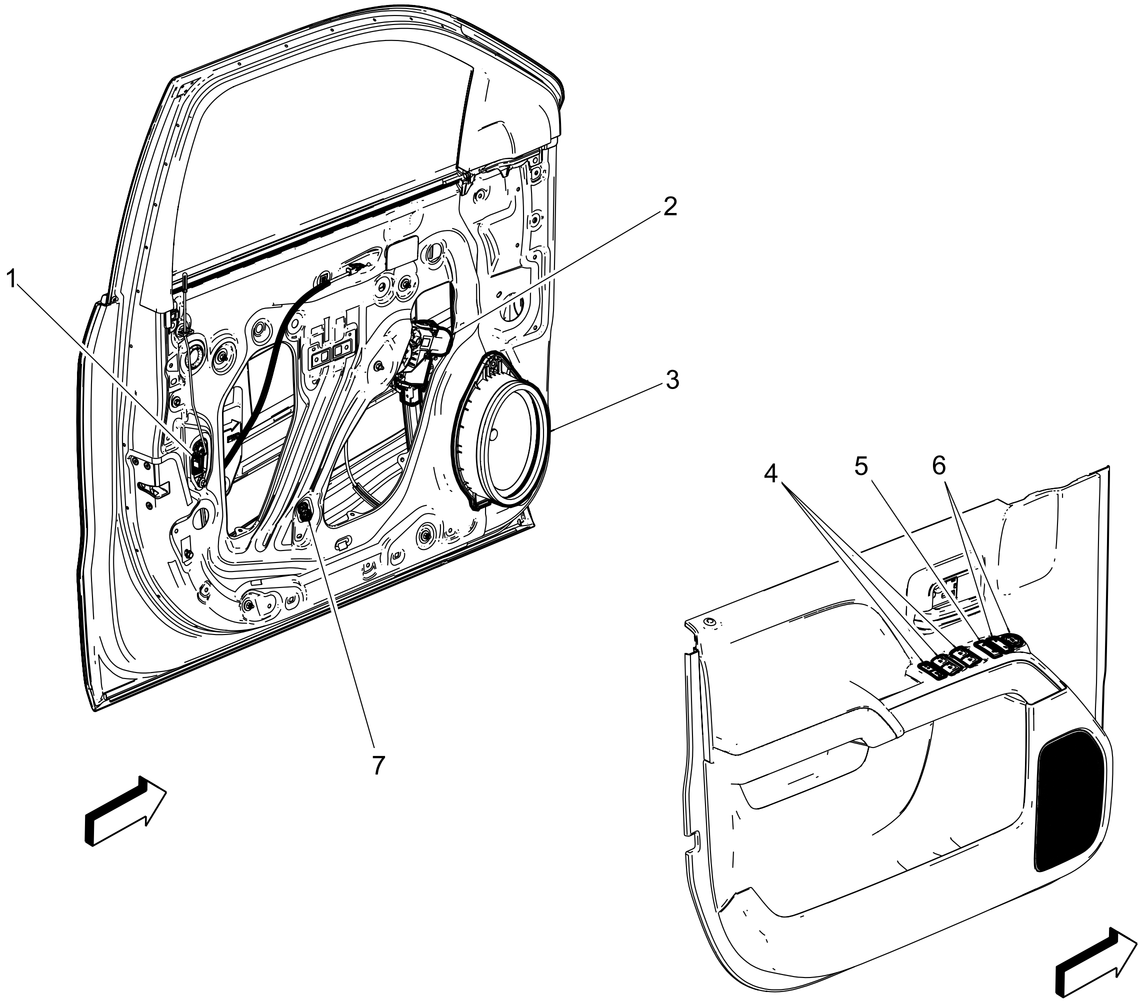


Items

1. M55P Seat Rear Vertical Motor - Passenger
2. K29 Seat Heating Control Module (KA1 without KB6)
3. M50P Seat Front Vertical Motor - Passenger
4. B62P Seat Position Sensor - Passenger (1500)
5. M51P Seat Horizontal Motor - Passenger
6. K55P Seat Blower Assembly - Passenger Cushion (KB6)

Door Component Views

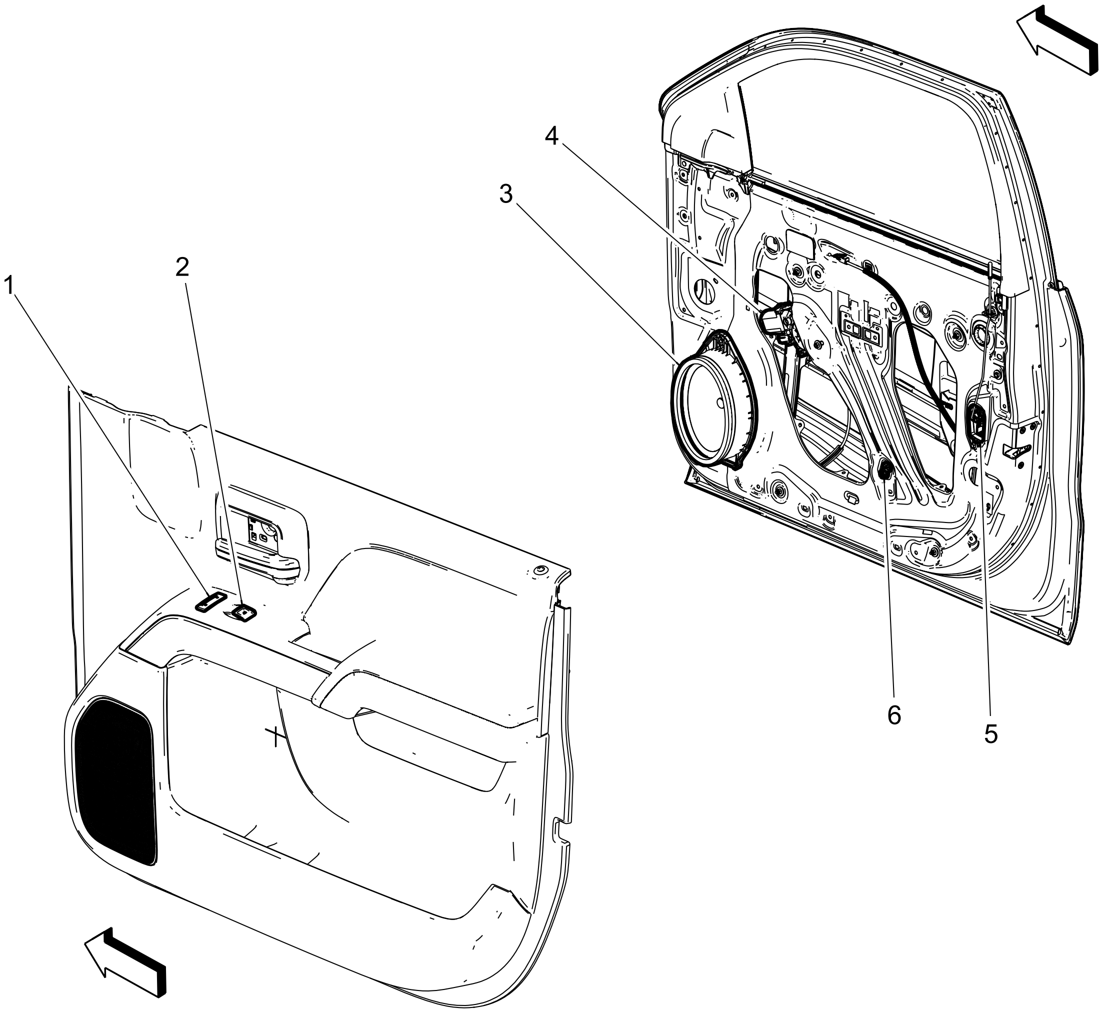
Driver Door Components



Items

1. A23D Door Latch Assembly - Driver
2. M74D Window Motor - Driver (A31)
3. P19AG Speaker - Left Front Door
4. S79D Window Switch - Driver (A31)
5. S13D Door Lock Switch - Driver
6. S52 Outside Rearview Mirror Switch (DL3, DL8, DPN or DQS)
7. B63LF Side Impact Sensor - Left Front (AY0)

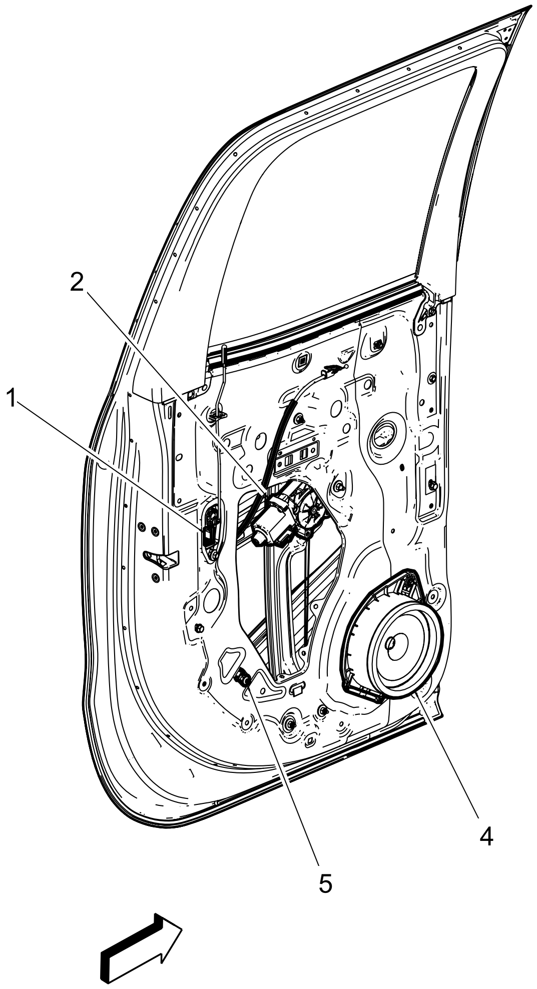
Passenger Door Components

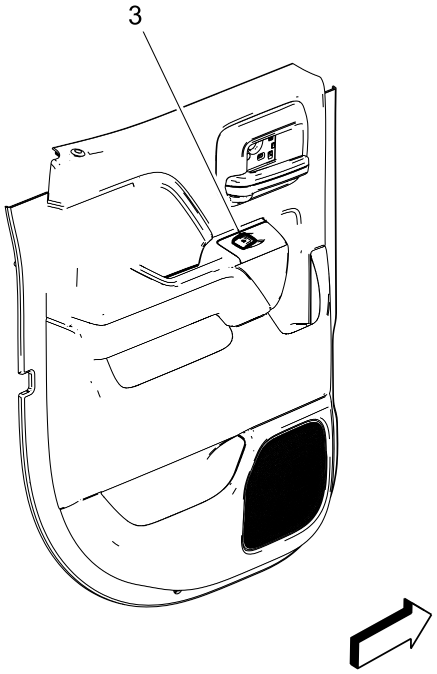


Items

1. S13P Door Lock Switch - Passenger
2. S79P Window Switch - Passenger (A31)
3. P19AH Speaker - Right Front Door
4. M74P Window Motor - Passenger (A31)
5. A23P Door Latch Assembly - Passenger
6. B63RF Side Impact Sensor - Right Front (AY0)

Left Rear Door Components

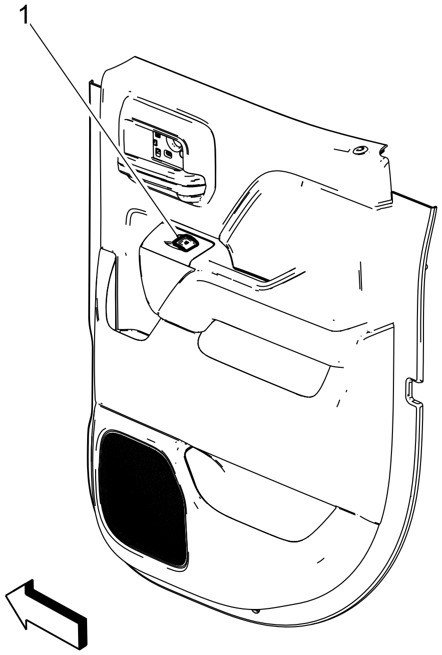


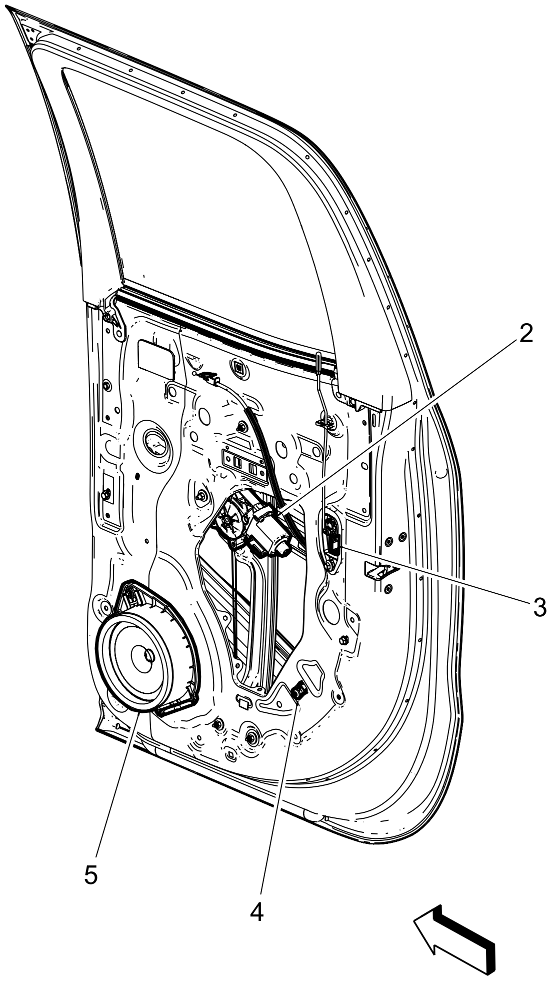


Items

1. A23LR Door Latch Assembly - Left Rear
2. M74LR Window Motor - Left Rear (Extended or Crew Cab)
3. S79LR Window Switch - Left Rear (Extended or Crew Cab)
4. P19AL Speaker - Left Rear Door (Extended or Crew Cab)
5. B63LR Side Impact Sensor - Left Rear (AY0)

Right Rear Door Components

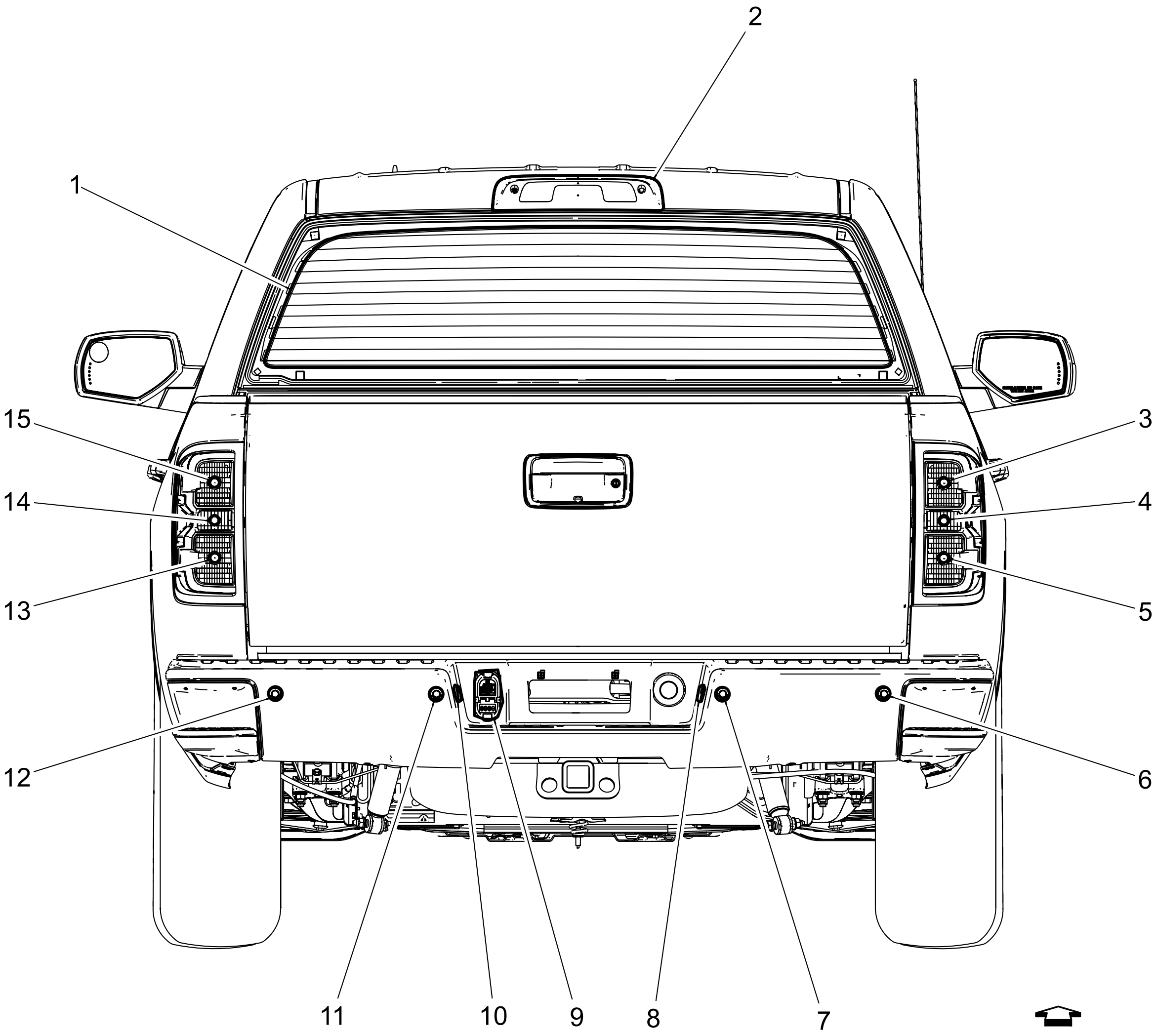




Items

1. S79RR Window Switch - Right Rear (Extended or Crew Cab)
2. M74RR Window Motor - Right Rear (Extended or Crew Cab)
3. A23RR Door Latch Assembly - Right Rear
4. B63RR Side Impact Sensor - Right Rear (AY0)
5. P19AM Speaker - Right Rear Door (Extended or Crew Cab)

Rear of Vehicle Components



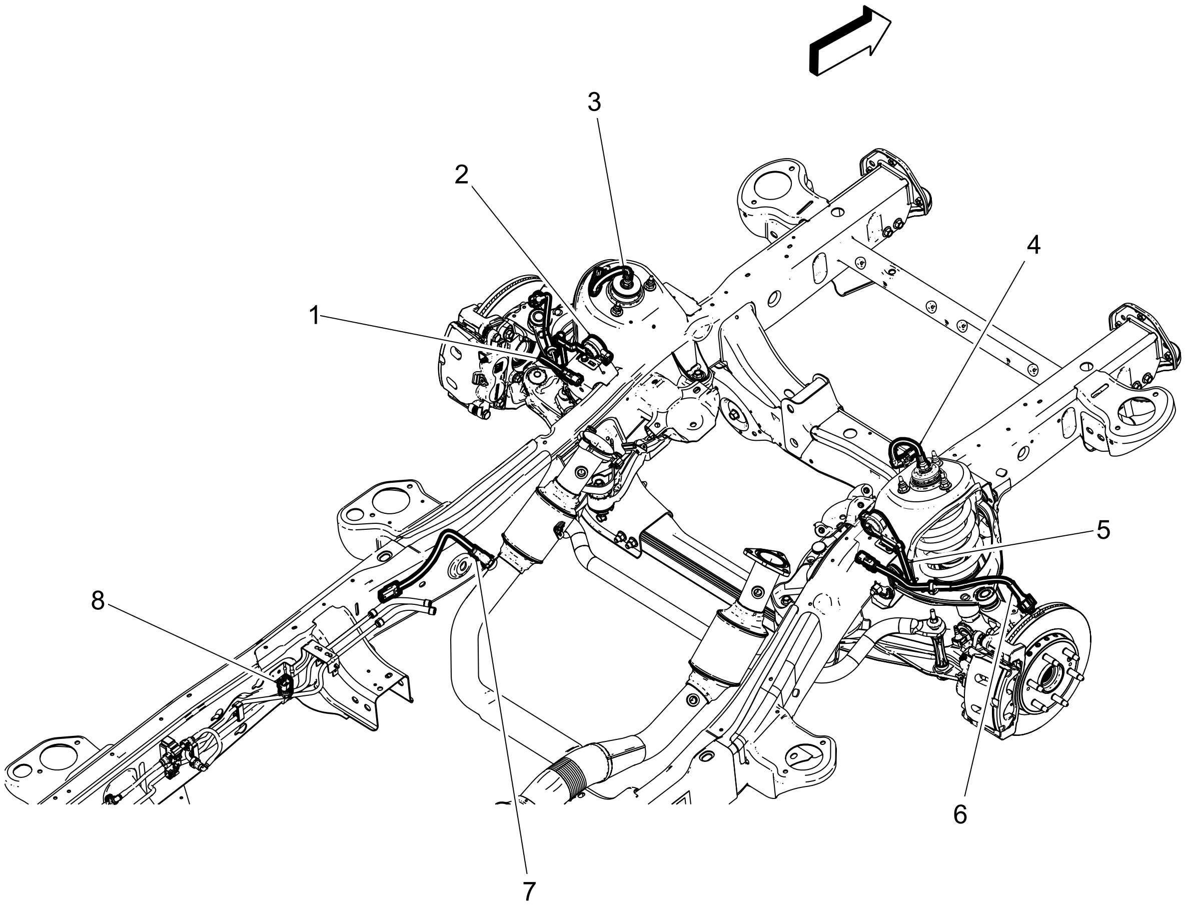
Items

1. E18 Rear Defogger Grid (C49)
2. E6 Center High Mounted Stop Lamp
3. E5AH Tail/Stop and Turn Signal Lamp - Right Upper (without ZW9)
4. E5B Backup Lamp - Right
5. E5V Tail/Stop and Turn Signal Lamp - Right Lower (without ZW9)
6. B78H Rear Object Sensor - Right Outer (UD7)
7. B78F Rear Object Sensor - Right Middle (UD7)
8. E7R License Plate Lamp - Right (E63 without 9J4)
9. X88 Trailer Connector (Z82)
10. E7L License Plate Lamp - Left (E63 without 9J4)
11. B78E Rear Object Sensor - Left Middle (UD7)

11. B78E Rear Object Sensor - Left Middle (UD7)
12. B78G Rear Object Sensor - Left Outer (UD7)
13. E5U Tail/Stop and Turn Signal Lamp - Left Lower (without ZW9)
14. E5A Backup Lamp - Left
15. E5AG Tail/Stop and Turn Signal Lamp - Left Upper (without ZW9)

Wheels/Vehicle Underbody Component Views

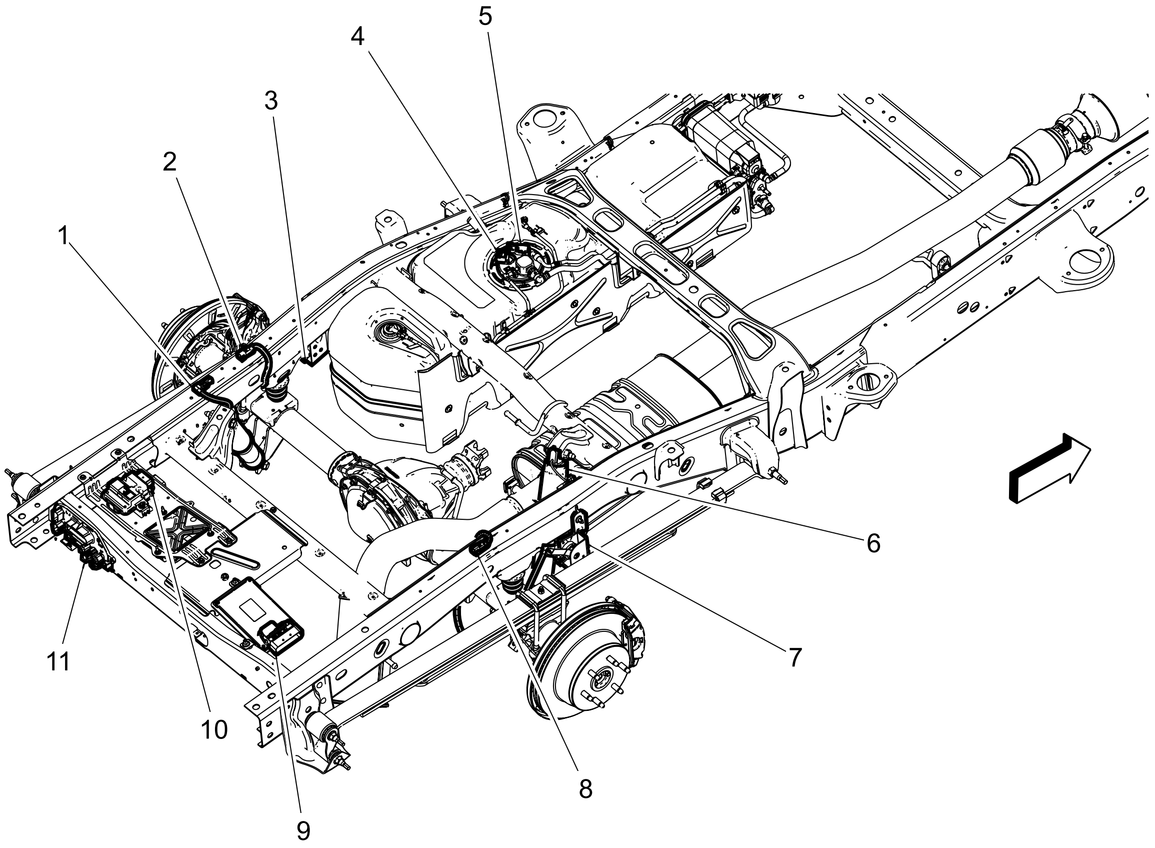
Front Chassis Components (1500)



Items

1. B5LF Wheel Speed Sensor - Left Front
2. B152LF Suspension Position Sensor - Left Front (Z95)
3. Q37LF Shock Absorber Actuator - Left Front (Z95)
4. Q37RF Shock Absorber Actuator - Right Front (Z95)
5. B152RF Suspension Position Sensor - Right Front (Z95)
6. B5RF Wheel Speed Sensor - Right Front
7. B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (except LML)
8. B47 Fuel Pressure Sensor (1500)

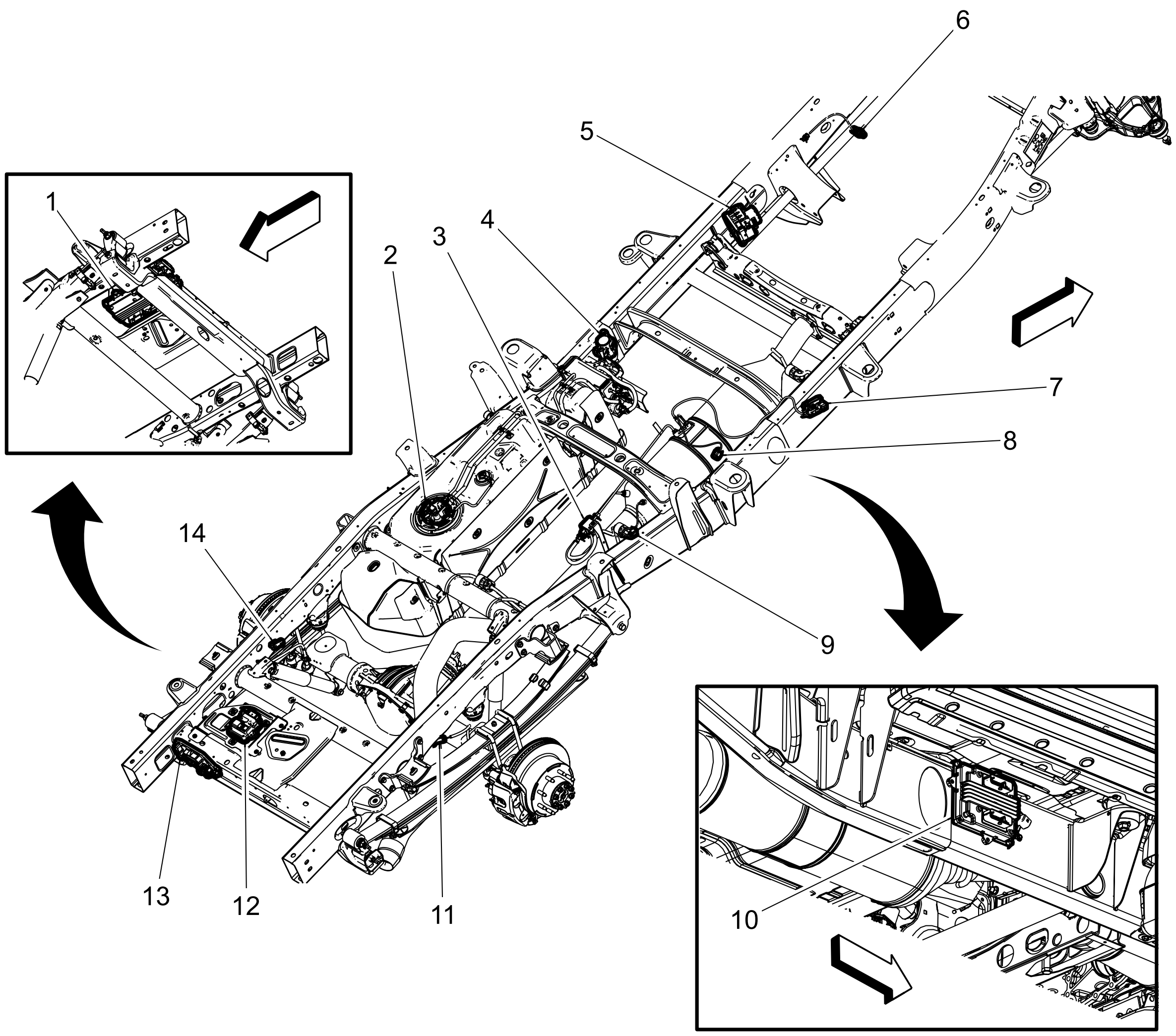
Rear Chassis Components (except Chassis Cab or LML)



Items

1. Q37LR Shock Absorber Actuator - Left Rear (Z95)
2. B5LR Wheel Speed Sensor - Left Rear
3. B152LR Suspension Position Sensor - Left Rear (Z95)
4. A7 Fuel Pump and Level Sensor Assembly (1500)
5. B150 Fuel Tank Pressure Sensor (except LML)
6. Q37RR Shock Absorber Actuator - Right Rear (Z95)
7. B152RR Suspension Position Sensor - Right Rear (Z95)
8. B5RR Wheel Speed Sensor - Right Rear
9. K19 Suspension Control Module (Z95)
10. K38 Chassis Control Module
11. X63A Junction Block - Rear Body

11. X63A Junction Block - Rear Body

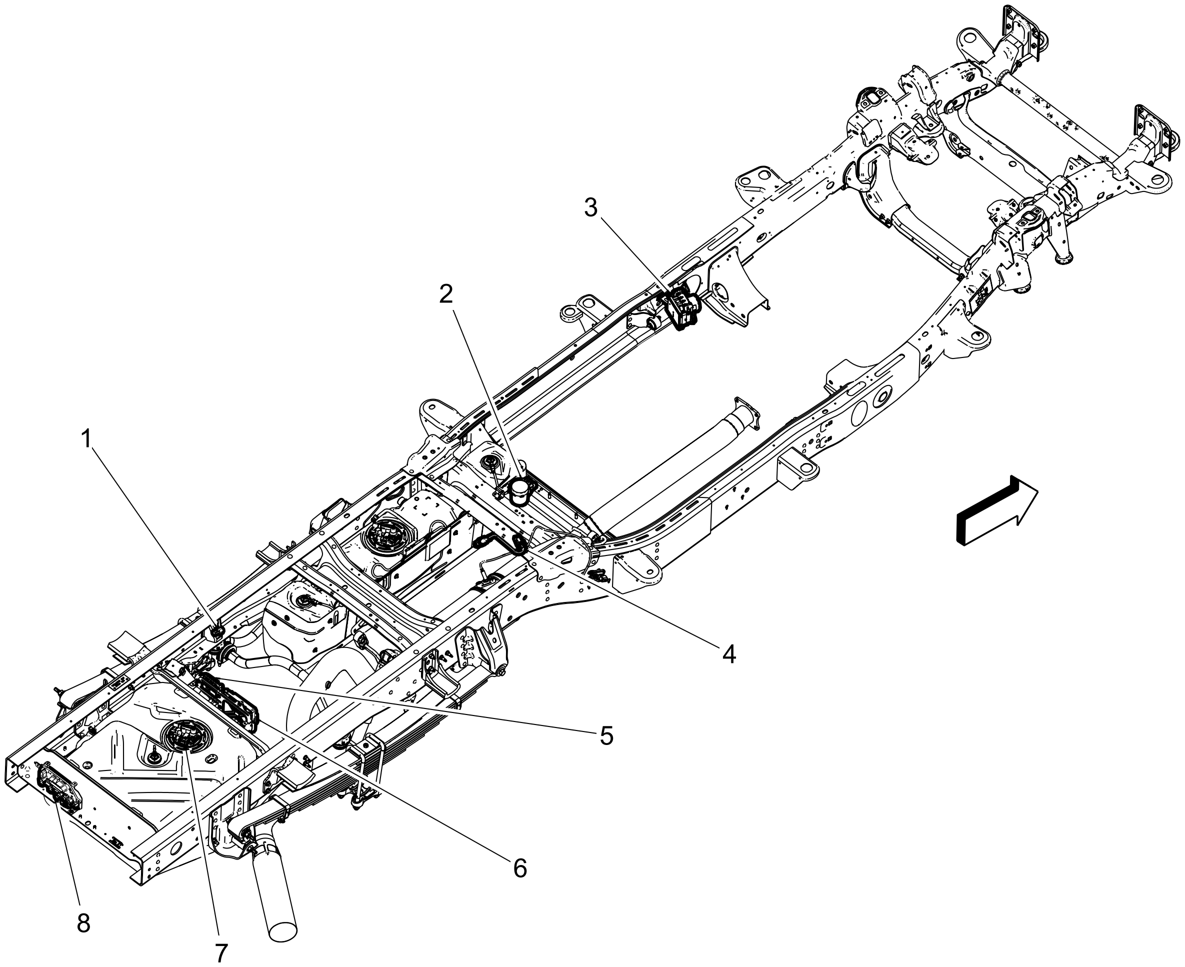


Items

1. K38 Chassis Control Module
2. B150 Fuel Tank Pressure Sensor (except LML)
3. B154 Diesel Particulate Filter Exhaust Differential Pressure Sensor (LML)
4. Q13 Evaporative Emission Vent Solenoid Valve (except LML)
5. K17 Electronic Brake Control Module
6. B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (except LML)
7. B195A Nitrogen Oxides Sensor 1 (LML)
8. B131C Exhaust Temperature Sensor 3 (LML)
9. B131D Exhaust Temperature Sensor 4 (LML)
10. K44 Power Take-Off Control Module (PTO)
11. B5LR Wheel Speed Sensor - Left Rear

11. B5LR Wheel Speed Sensor - Left Rear
12. K133 Trailer Brake Power Control Module (JL1)
13. X63A Junction Block - Rear Body
14. B5RR Wheel Speed Sensor - Right Rear

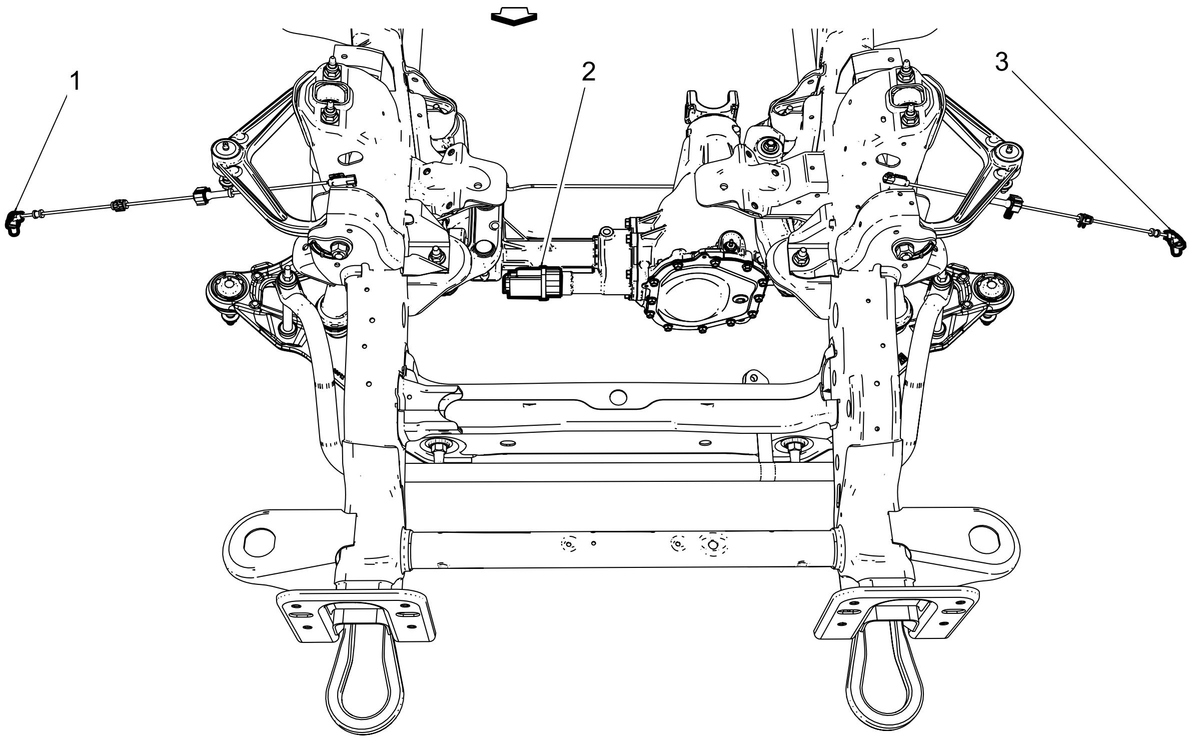
Chassis Components (Chassis Cab)



Items

1. R6A Terminating Resistor - High Speed Bus
2. B150 Fuel Tank Pressure Sensor (except LML)
3. Q13 Evaporative Emission Vent Solenoid Valve (except LML)
4. K17 Electronic Brake Control Module
5. B195A Nitrogen Oxides Sensor 1 (LML)
6. K67 Trailer Brake Control Module
7. K38 Chassis Control Module
8. B150 Fuel Tank Pressure Sensor (except LML)
9. X63A Junction Block - Rear Body

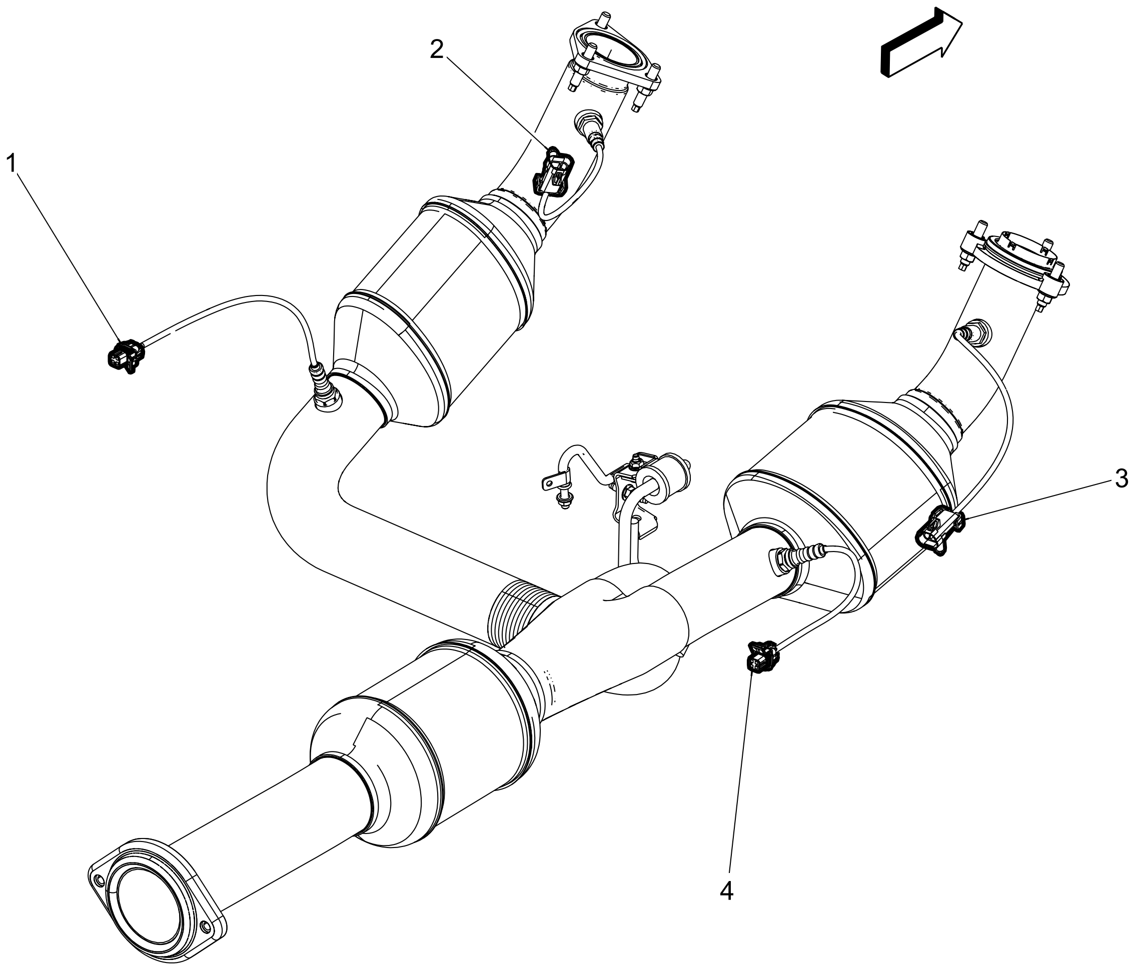
Front Axle Components



Items

1. B5RR Wheel Speed Sensor - Right Rear
2. M26 Front Axle Engagement Actuator (NQF, MQG or MQH)
3. B5LR Wheel Speed Sensor - Left Rear

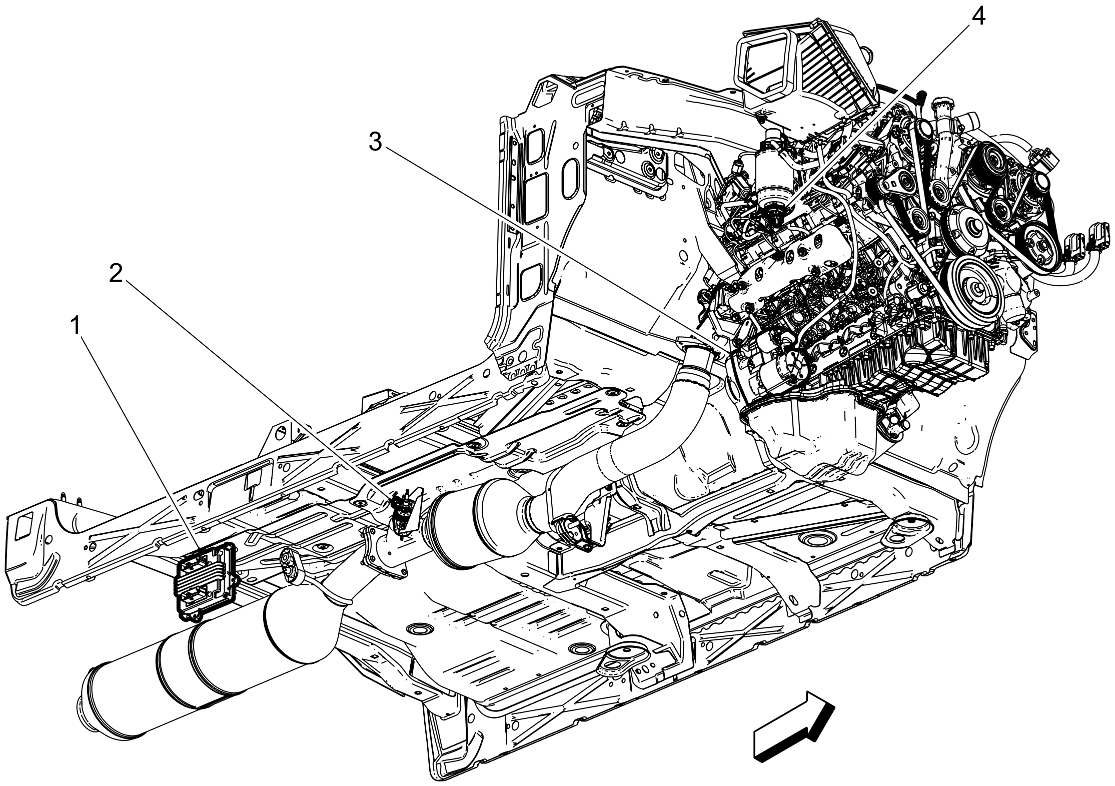
Exhaust Components (L96)



Items

1. B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (except LML)
2. B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (except LML)
3. B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (except LML)
4. B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (except LML)

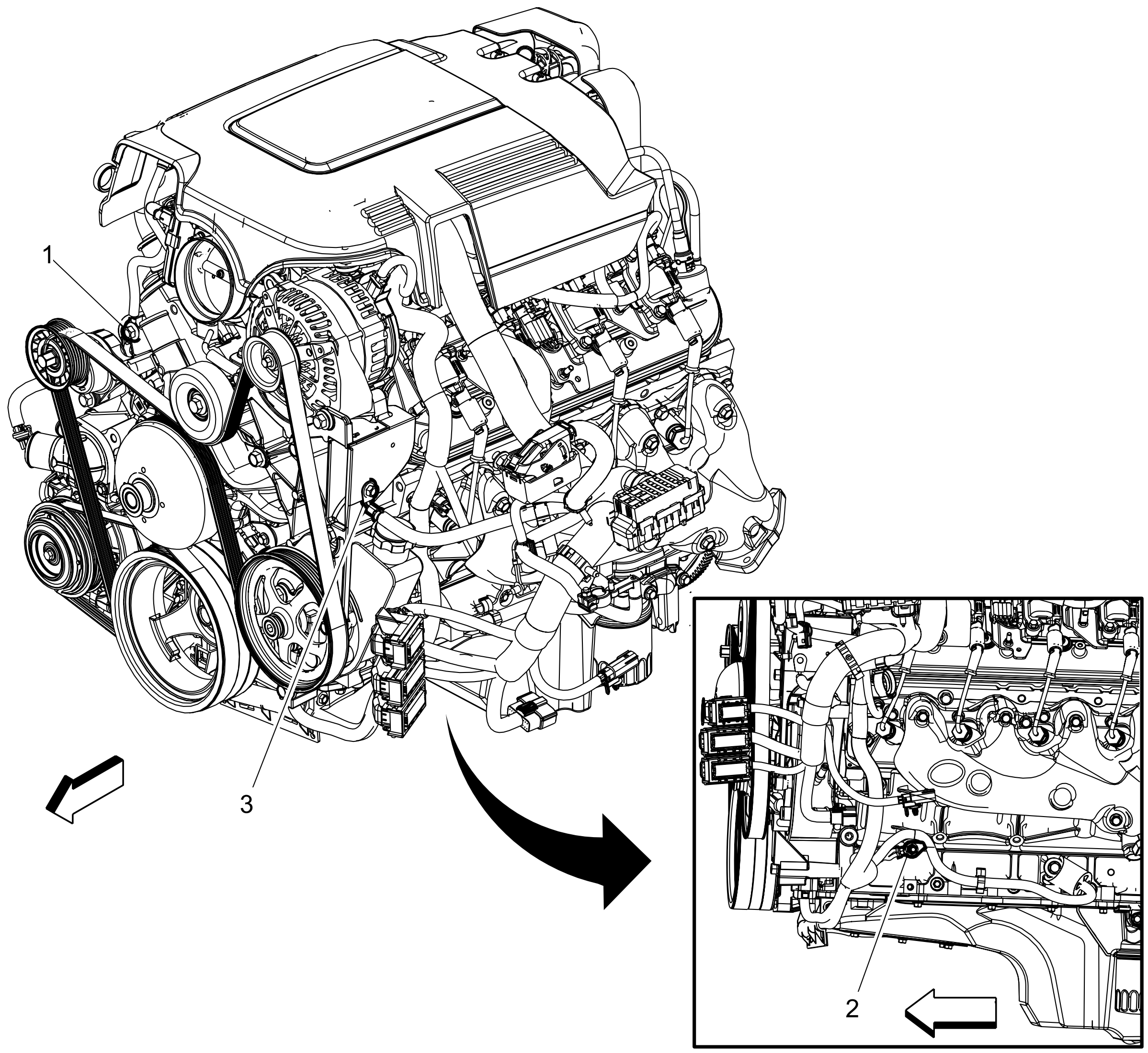
Underbody Components (LML)



Items

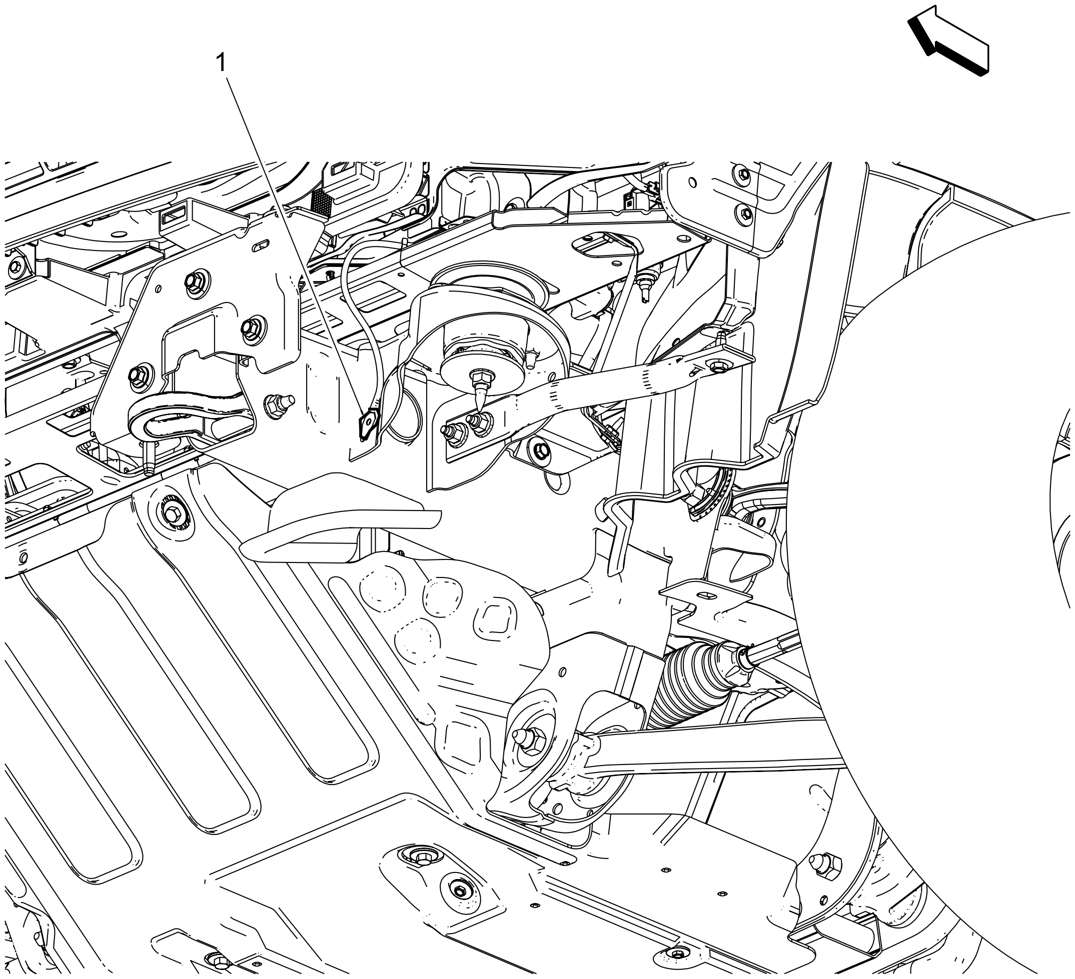
1. K44 Power Take-Off Control Module (PTO)
2. Q61 Reductant Injector (LML)
3. M64 Starter Motor
4. B116 Water in Fuel Sensor (LML)

G100, G110 and G120 (L96 or LC8)



Items

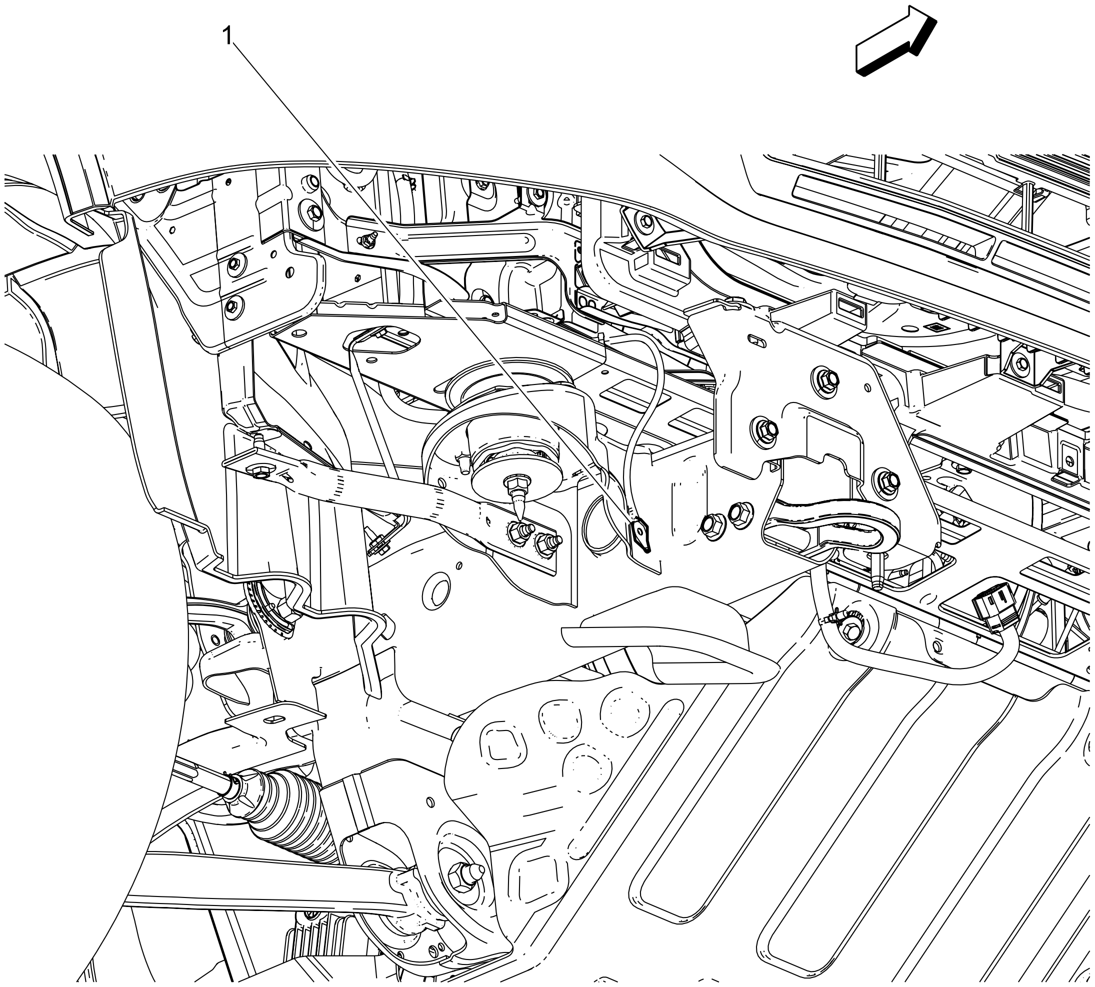
1. G120
2. G110
3. G100 (K4B or K4D)



Items

1. G101

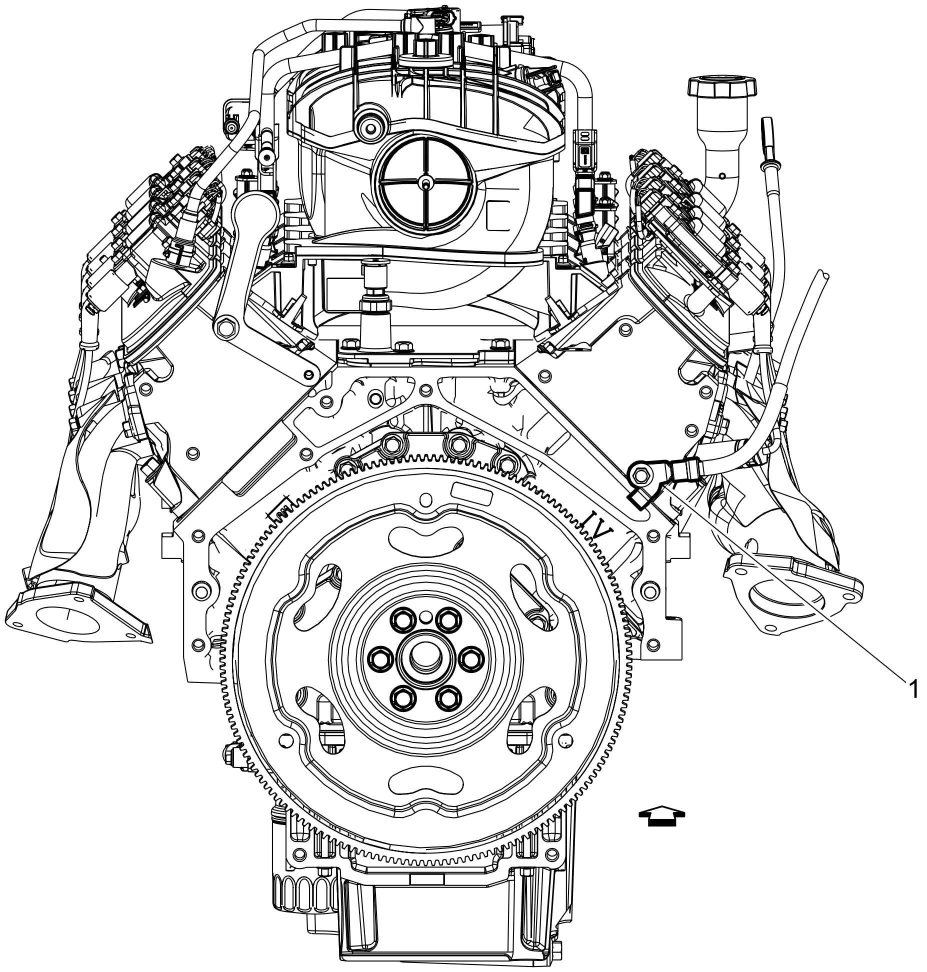
G102



Items

1. G102

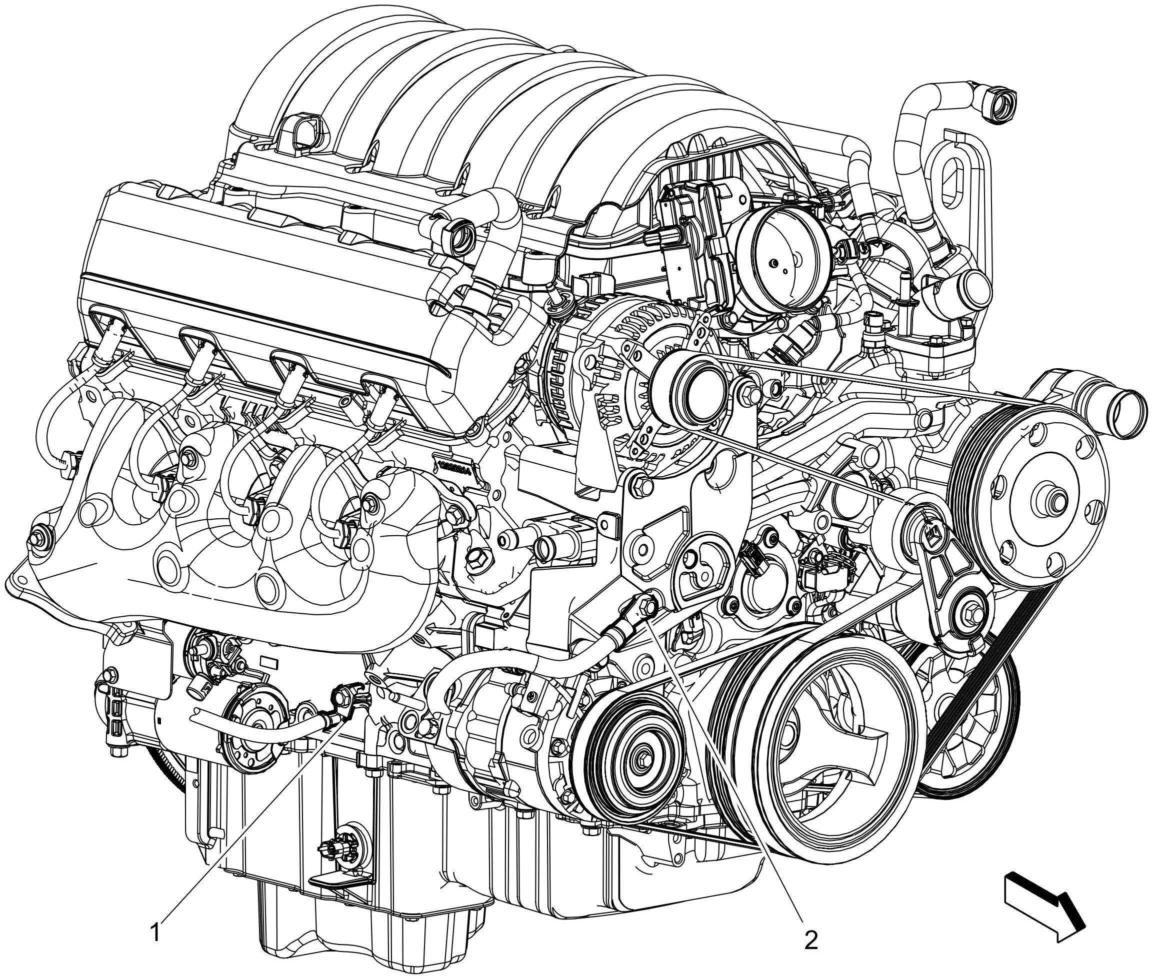
G103 (L96 or LC8)



Items

1. G103

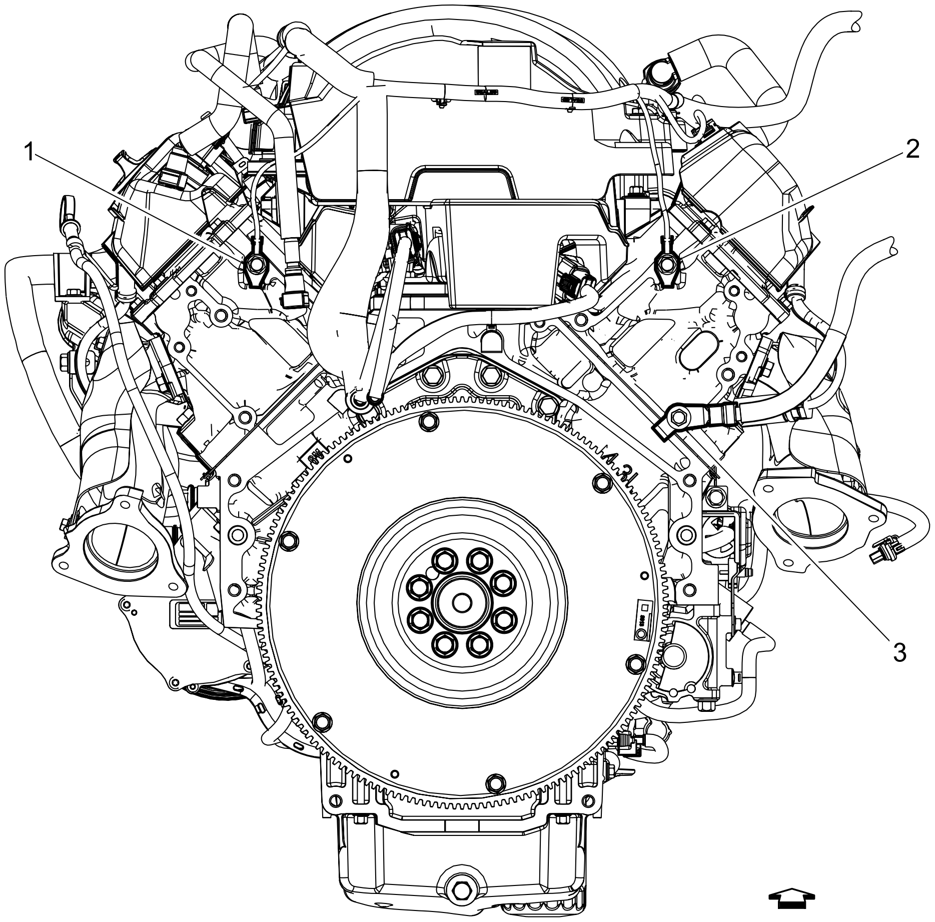
G103 and G125 (L83 or L86)



Items

1. G103
2. G125 (1500)

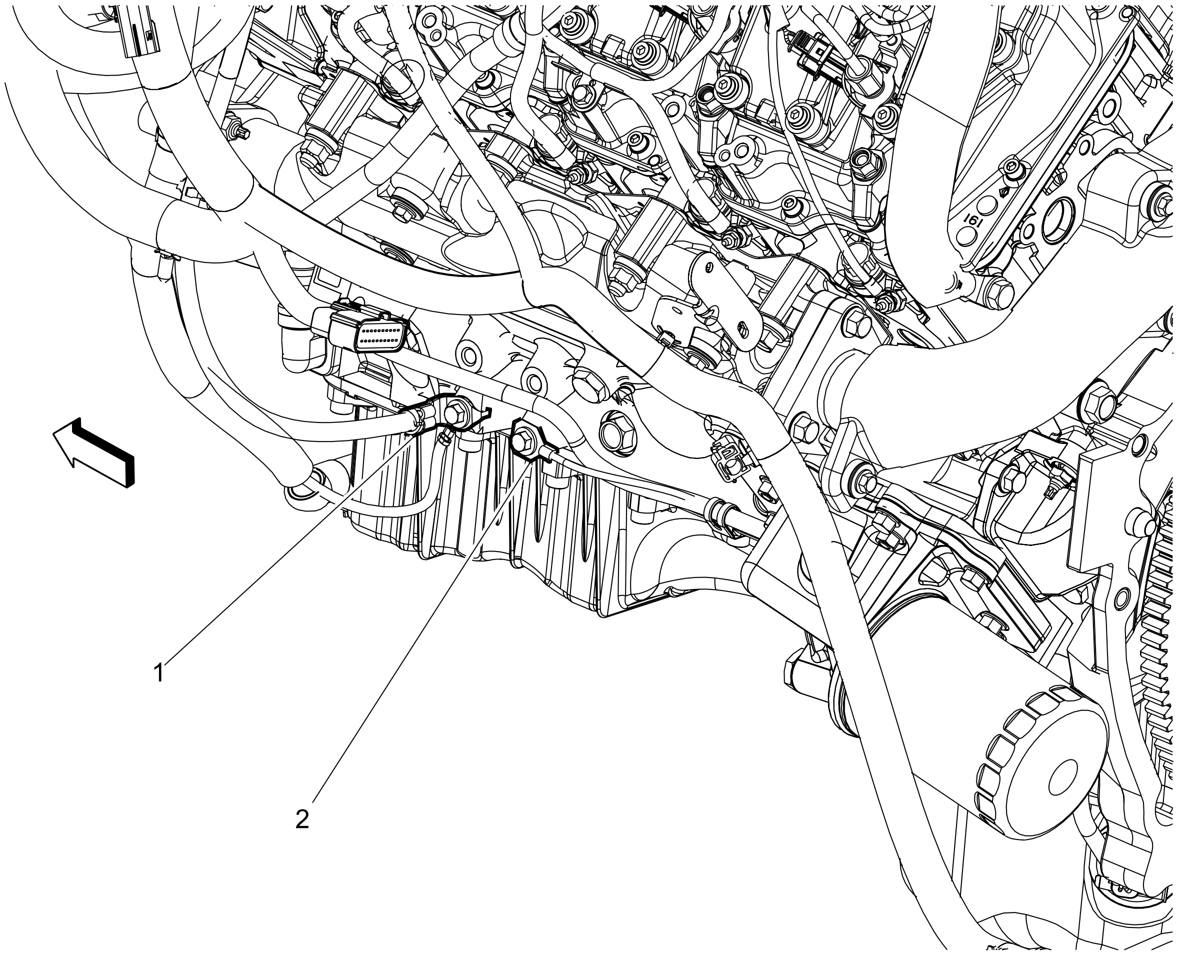
G103, G130 and G140 (LV1 or LV3)



Items

1. G130 (1500)
2. G140 (1500)
3. G103

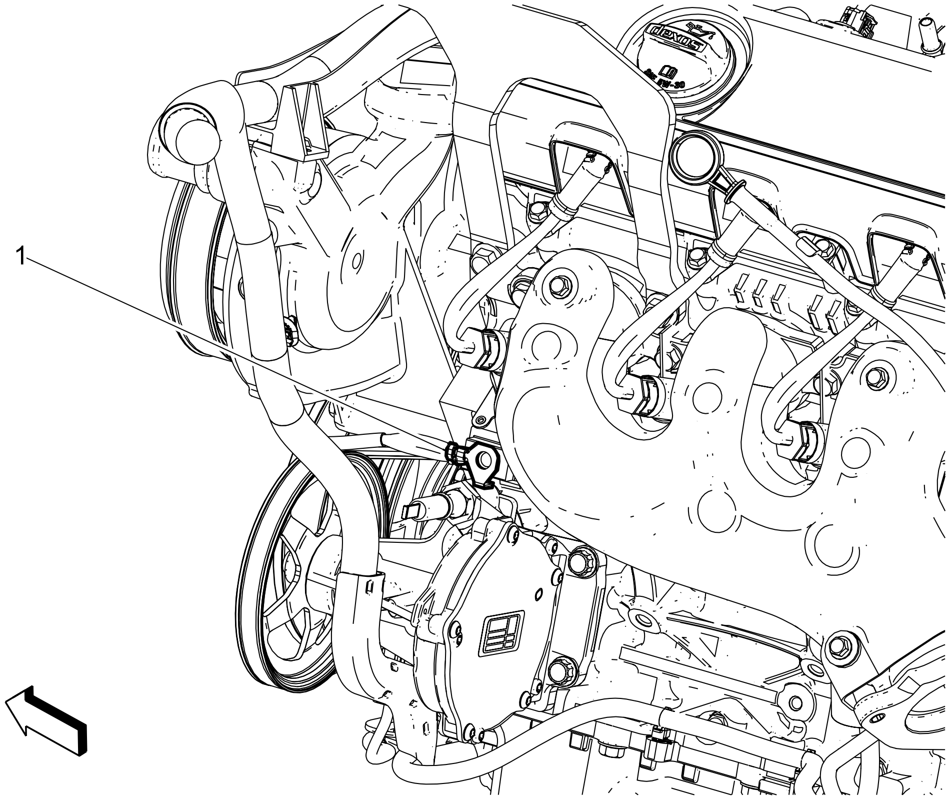
G109 and G110 (LML)



Items

1. G110
2. G109 (LML)

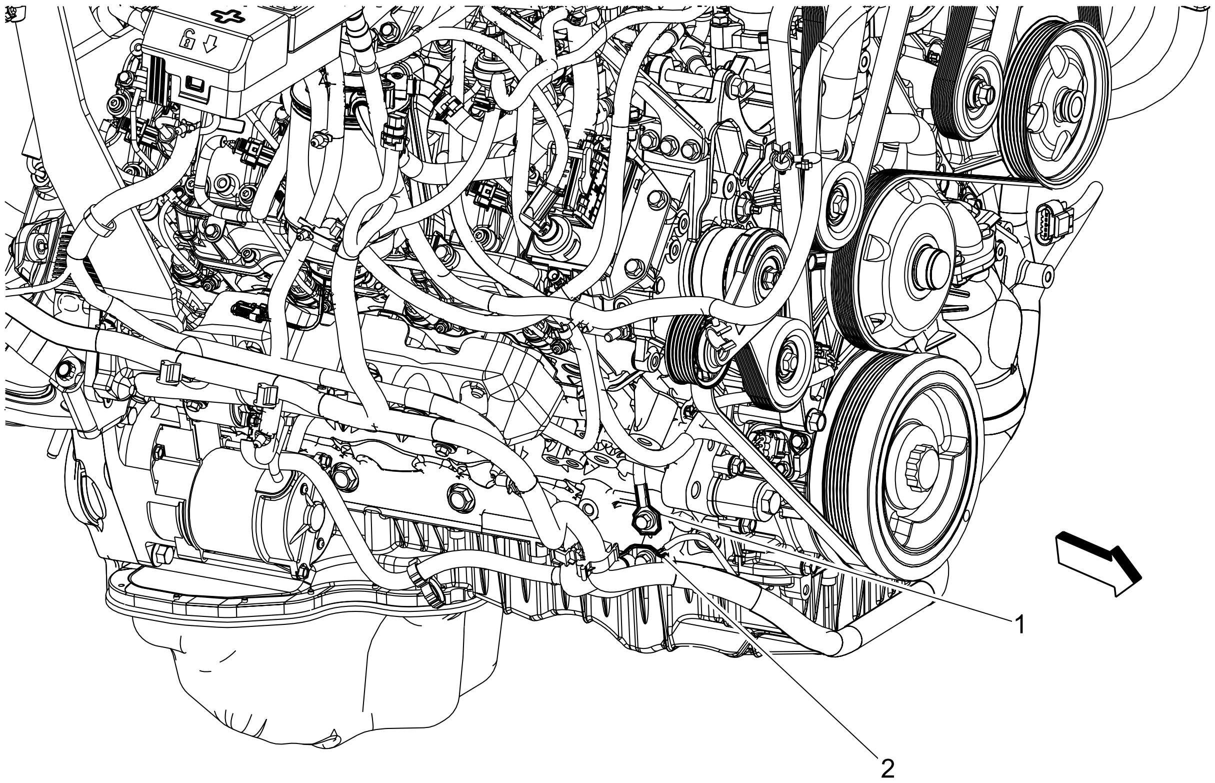
G110 (1500)



Items

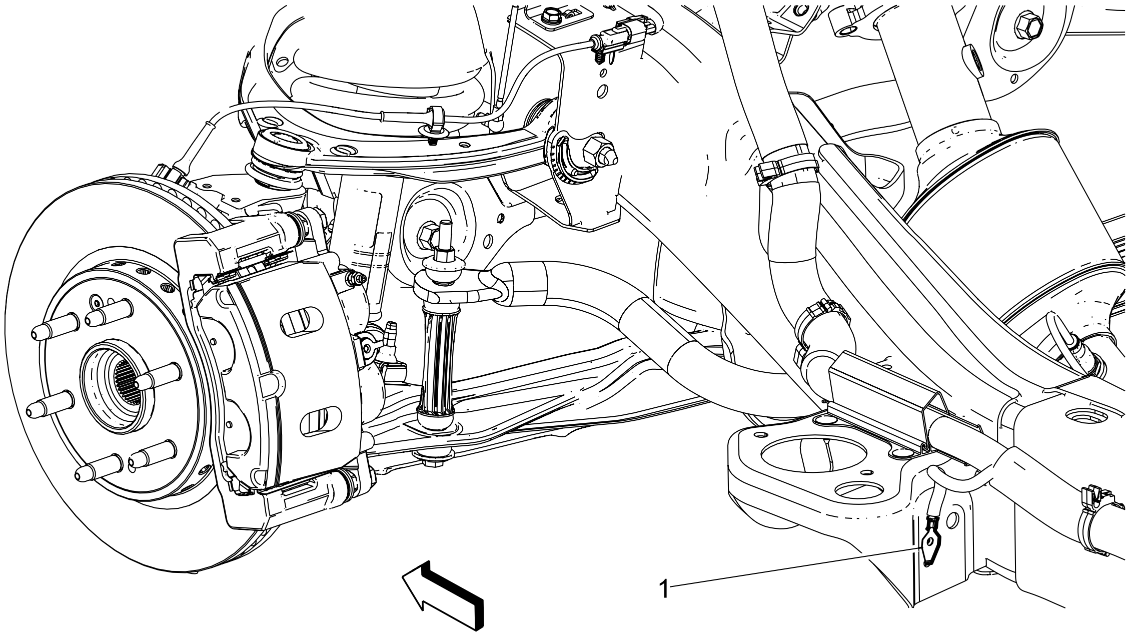
1. G110

G120 and G122 (LML)



Items

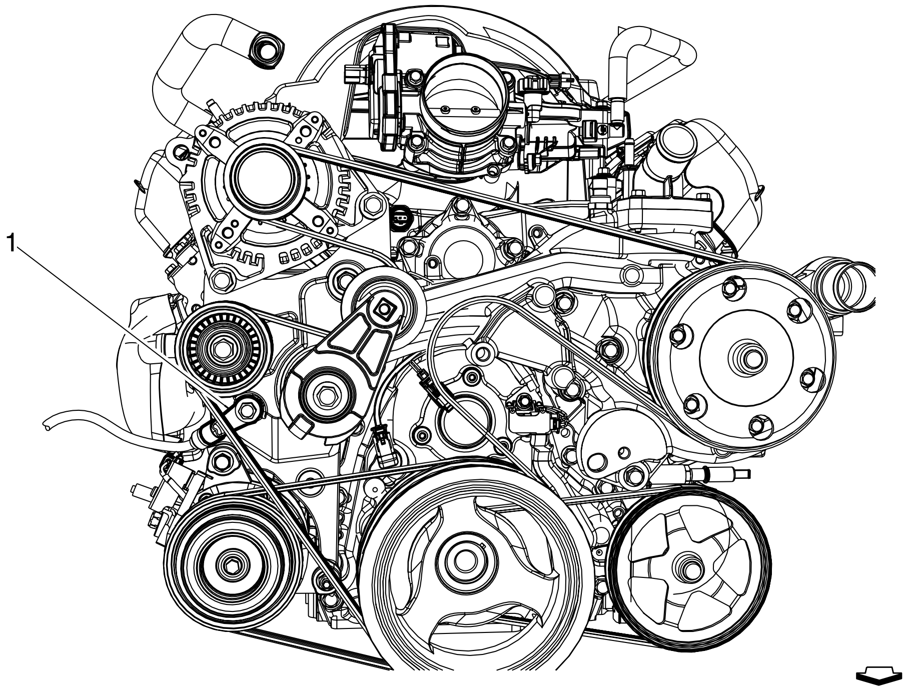
1. G122 (LML)
2. G120



Items

1. G121

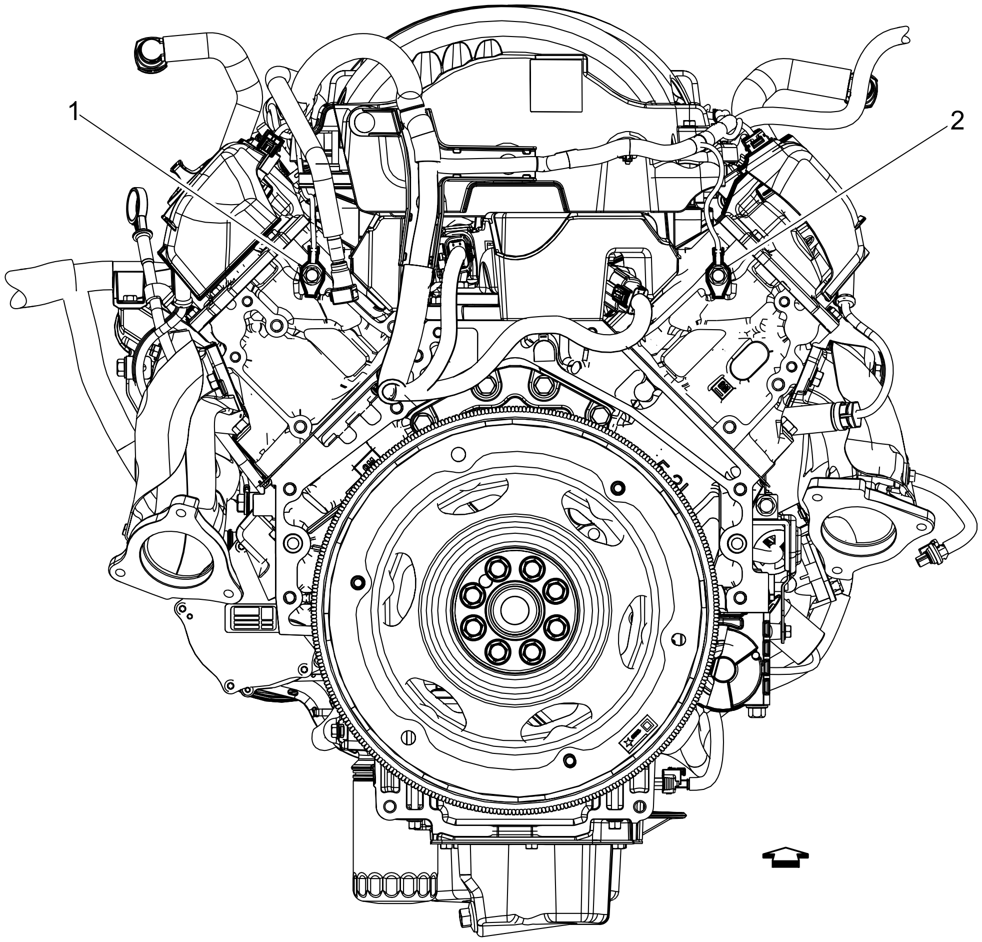
G125 (LV1 or LV3)



Items

1. G125 (1500)

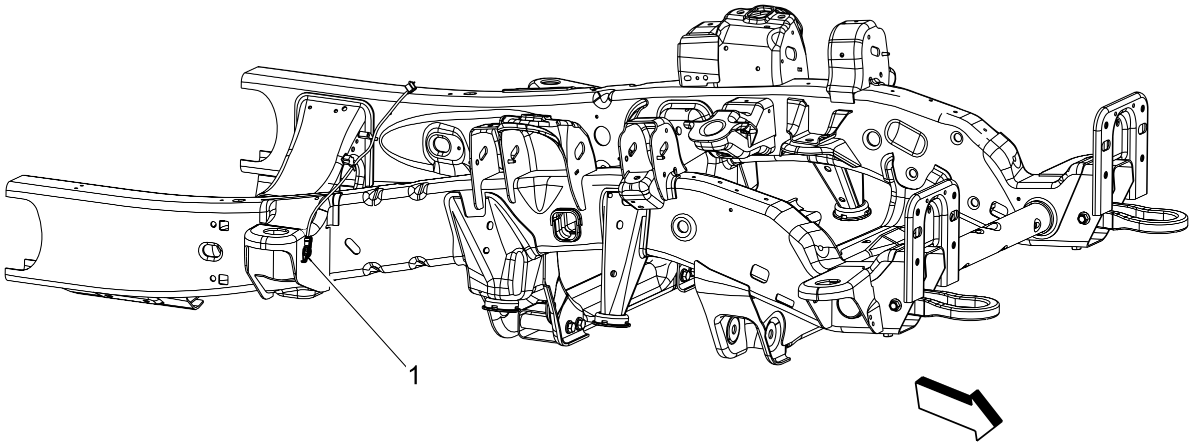
G130 and G140 (L83 or L86)



Items

1. G130 (1500)
2. G140 (1500)

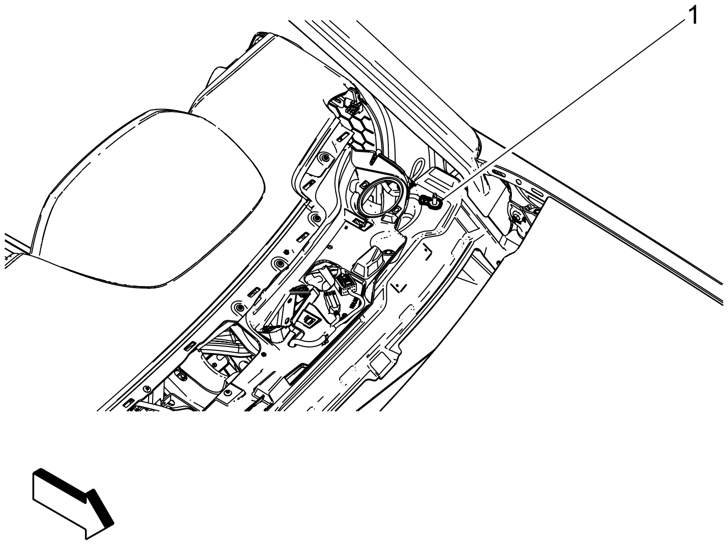
G141

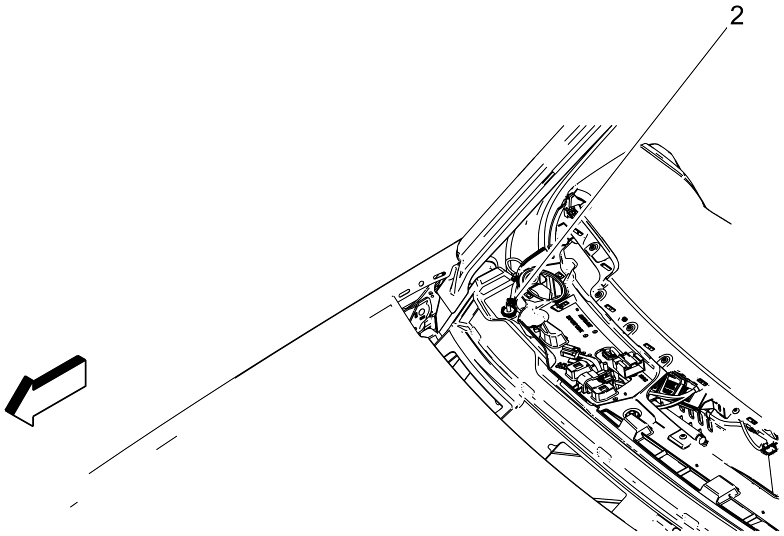


Items

1. G141

G210 and G218

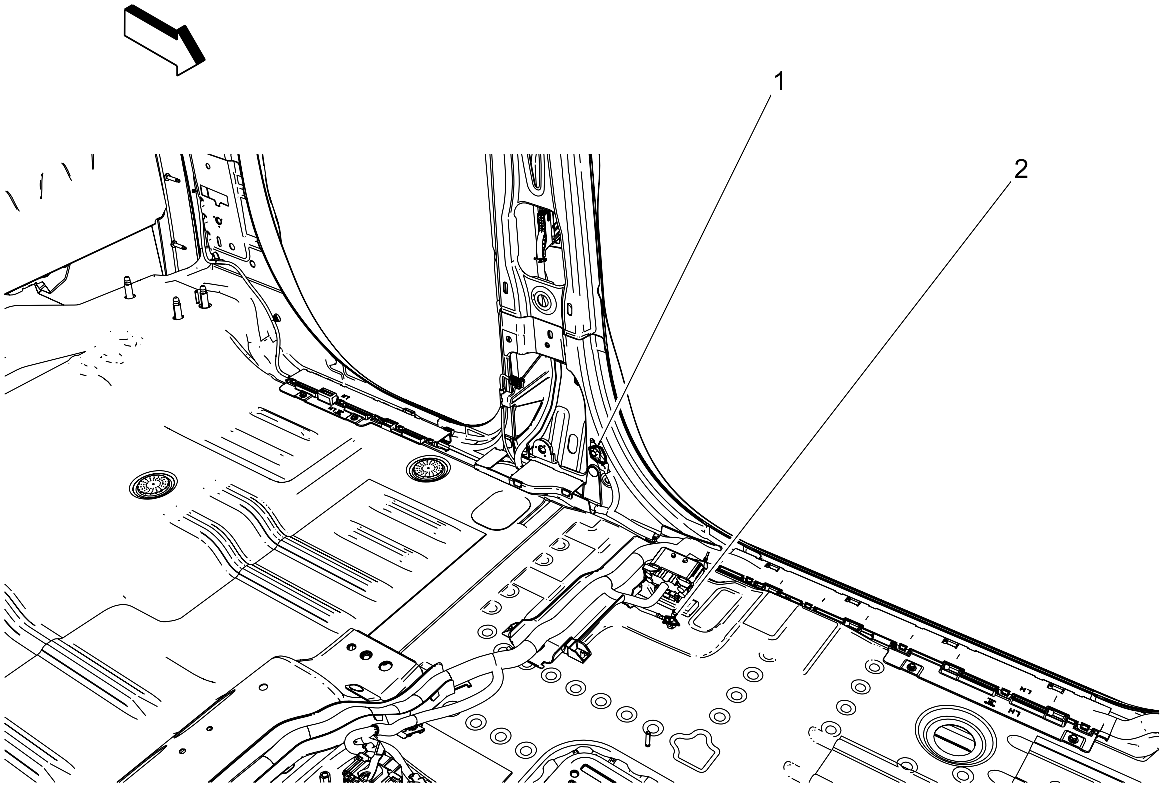




Items

1. G218
2. G210

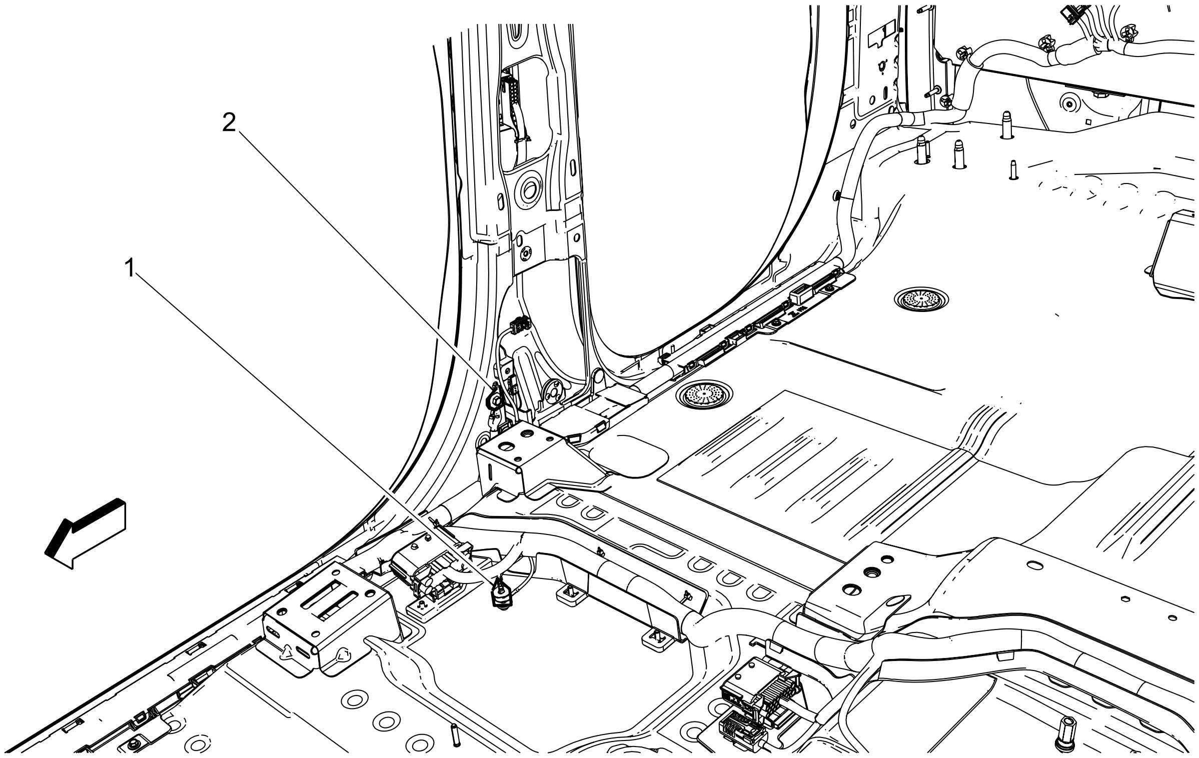
G311 and G325



Items

1. G311
2. G325

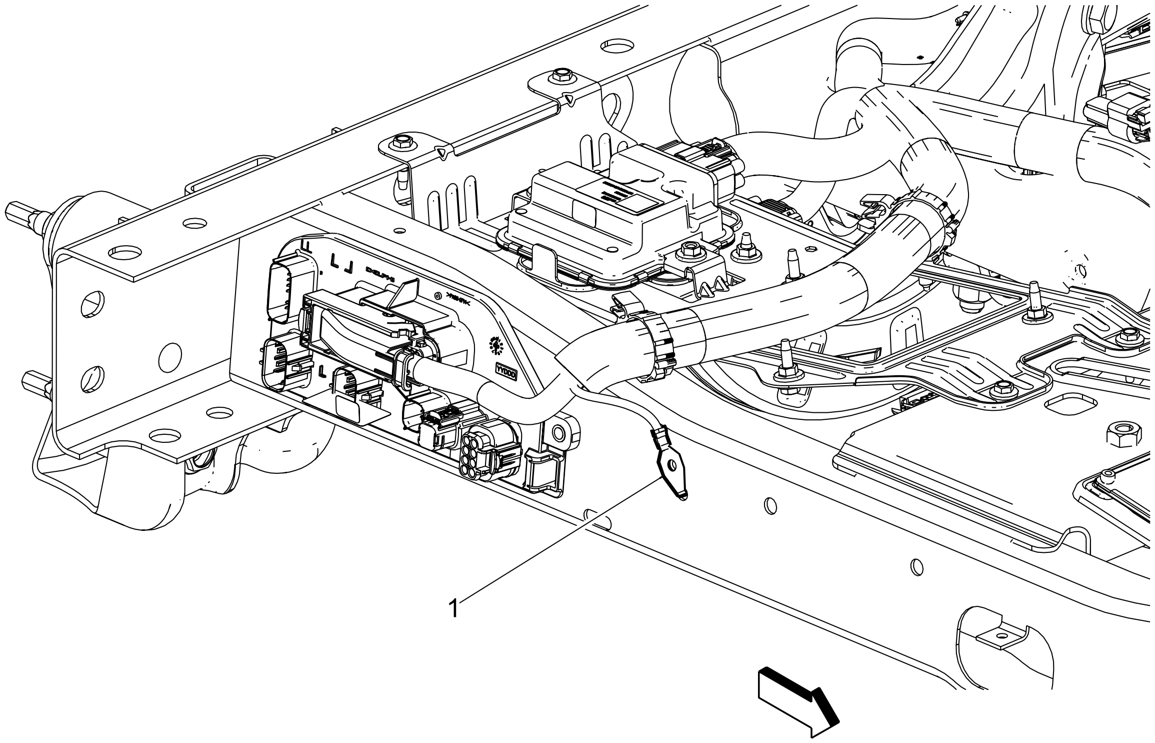
G312 and G327



Items

1. G327
2. G312

G400

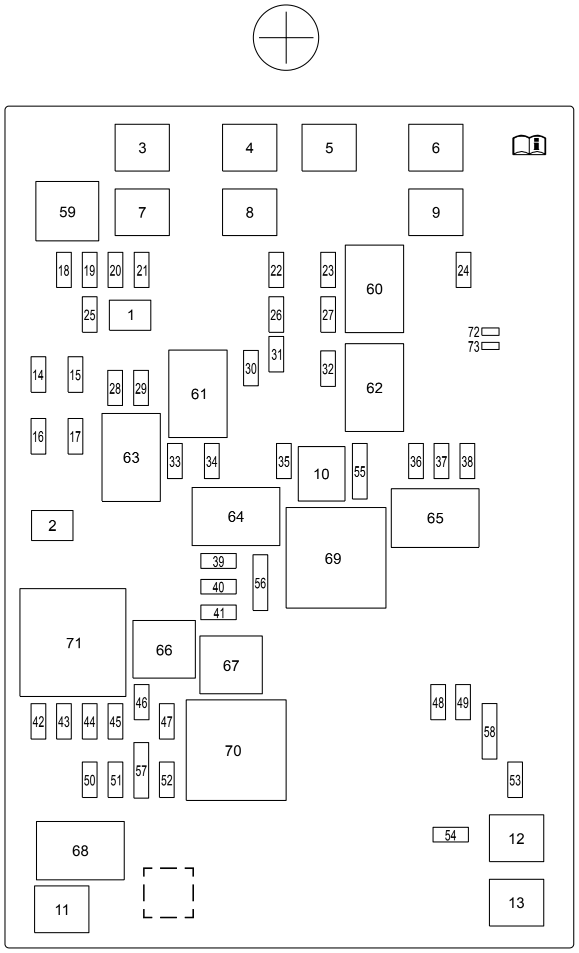


Items

1. G400

Electrical Center Identification Views

X50A Fuse Block - Underhood Label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MICRO J-CASE FUSES

1. TRLR BRK (30A)
2. TRLR BATT (30A)

J-CASE FUSES

3. ABS PUMP (60A)
4. I/P BEC 1 (60A)
5. MSB PASS (40A)
6. 4WD TREC (30A)
7. ELEC PRK BRK (40A)
8. I/P BEC 2 (60A)
9. MSB DRVR (40A)
10. REAR DEFOG (30A)
11. STRTR (40A)
12. COOL FAN 1 (40A)
13. COOL FAN 2 (40A)

MINI FUSES 2 PIN

14. TRLR STOP TRN LT (10A)
15. TRLR PRK LAMP (20A)
16. REV LAMP (10A)
17. TRLR STOP TRN RT (10A)

MICRO FUSES 2 PIN

18. FUEL PUMP (20A)
19. ICCM (10A)
20. ESC ELC EXH (30A)
21. FPPM (30A)
22. UPFTR SW1 (5A)
23. UPFTR 2 (30A)
24. FRT/WPR (25A)
25. ABS VLV (25A)
26. UPFTR SW2 (5A)
27. UPFTR SW3 (5A)
28. PRK LAMP RT (15A)
29. PRK LAMP LT (15A)
30. UPFTR 3 (30A)
31. UPFTR SW4 (5A)
32. UPFTR 4 (30A)
33. BCK UP LAMP (10A)
34. ECM IGN (15A)
35. A/C CLTCH (10A)
36. HTD MIR (15A)
37. UPFTR 1 (30A)
38. CHMSL (10A)
39. MISC IGN (15A)
40. TRANS IGN (15A)
41. FUEL PUMP 2 (20A)
42. COOL FAN CLTCH (10A)
43. ENG (15A)
44. INJ A ODD (20A)
45. INJ B EVEN (20A)
46. O2 SNSR B (15A)
47. THROT CONT (15A)
48. HORN (15A)
49. FOG LAMP (15A)
50. O2 SNSR A (15A)
51. ECM (30A)
52. INT HTR (10A)
53. ACCY PWR MDL/TPIM PUMP (10A)
54. FRT WASH (15A)

MICRO FUSES 3 PIN

55. A/C CMPRSR MDL/BATT RVC (5A/5A)
56. A/C CMPRSR MDL/BATT PCK (10A/10A)
57. TCM / ECM (15A/15A)
58. HDLP RT / LT (10A/10A)

MICRO RELAYS

59. FUEL PUMP
60. UPFTR 2
61. UPFTR 2
62. UPFTR 2
63. TRLR PRK LAMPS
64. RUN/CRNK
65. UPFTR 1
66. FUEL PUMP 2
67. A/C CNTRL
68. STRTR

MINI RELAYS

69. REAR DEFOG
70. ECM

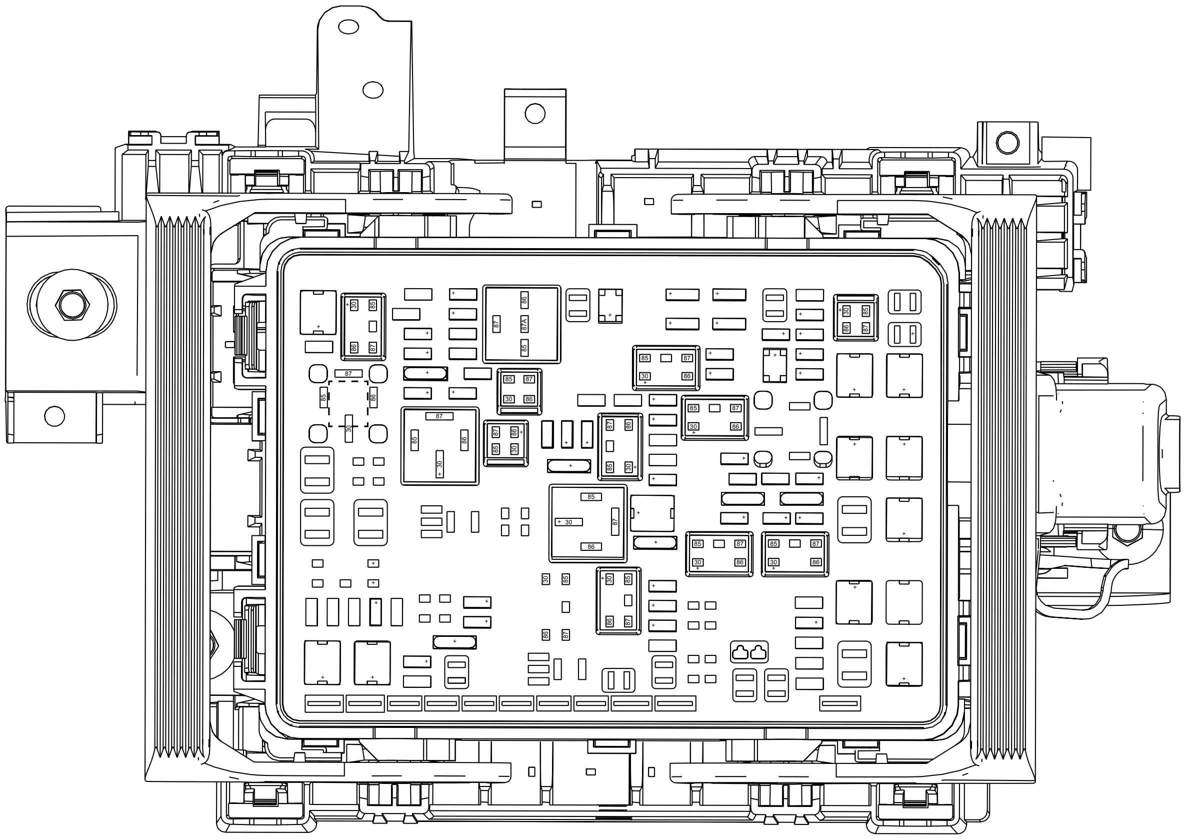
SOLID STATE RELAY

71. COOL FAN CLTCH

TEST POINTS

72. CKT 95
73. CKT 92

X50A Fuse Block - Underhood Top View



X50A Fuse Block – Underhood Label Usage

No.	Device Label Name	Device Assigned Name	Rating	Description
Micro J-Case Fuses				
1	TRLR BRK	F1UA	30A	W24 Blunt Cut − Trailer Brakes Provision (E29), X61A Junction Clock-Instrument Panel (-E29),K133 Trailer Brake Power Control Module (JL1)
2	TRLR BATT	F2UA	30A	X88 Trailer Connector (Z82 without K4B)
J-Case Fuses				
3	ABS PUMP	F3UA	60A	K17 Electronic Brake Control Module
4	I/P BEC 1	F4UA	60A	X51L Fuse Block − Instrument Panel Left
5	MSB PASS	F5UA	40A	Not Used
6	4WD TREC	F6UA	30A	A16 Transfer Case Motor (NQH), K69 Transfer Case Control Module (NQF/NQH)
7	ELEC PRK BRK	F7UA	40A	Not Used

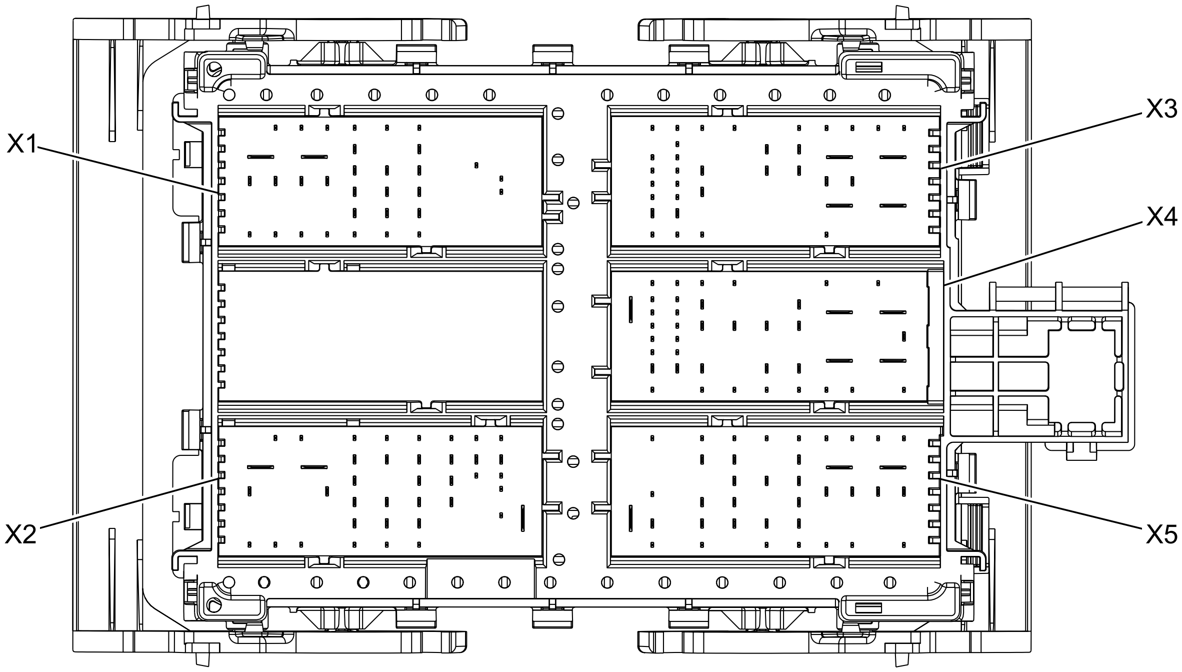
7	ELEC PRK BRK	F7UA	40A	Not Used
8	I/P BEC 2	F8UA	60A	X51L Fuse Block − Instrument Panel Left
9	MSB DRVR	F9UA	40A	Not Used
10	REAR DEFOG	F10UA	30A	E18 Rear Defogger Grid (C49)
11	STRTR	F11UA	40A	KR27 Starter Relay
12	COOL FAN 1	F12UA	40A	G10L Cooling Fan Motor-Left
13	COOL FAN 2	F13UA	40A	G10R Cooling Fan Motor-Right
14	TRLR STOP TRN LT	F14UA	10A	X88 Trailer Connector (Z82)
15	TRLR PRK LAMP	F15UA	20A	X88 Trailer Connector (Z82)
16	REV LAMP	F16UA	10A	X88 Trailer Connector (Z82)
17	TRLR STOP TRN RT	F17UA	10A	X88 Trailer Connector (Z82)
18	FUEL PUMP	F18UA	20A	KR23A Fuel Pump Relay (N2N)
19	ICCM	F19UA	10A	K38 Chassis Control Module (JL1)
20	ESC ELC EXH	F20UA	30A	K19 Suspension Control Module (1500)
21	FPPM	F21UA	30A	K38 Chassis Control Module (XFE), K111 Fuel Pump Driver Control Module (LV1/LV3/L83/L86)
22	UPFTR SW1	F22UA	5A	KR161A Configurable Provision Relay 1 (9L7), KR161B Configurable Provision Relay 2 (9L7)
23	UPFTR 2	F23UA	30A	W25 Blunt Cut − Configurable Provision (9L7 with E29), X61A Junction Block − Instrument Panel (9L7 without E29)
24	FRT/WPR	F24UA	25A	KR12B Windshield Wiper Relay, KR12C Windshield Wiper Speed Control Relay
25	ABS VLV	F25UA	25A	K17 electronic Brake Control Module
26	UPFTR SW2	F26UA	5A	KR161A Configurable Provision Relay 1 (9L7), KR161B Configurable Provision Relay 2 (9L7)
27	UPFTR SW3	F27UA	5A	KR161C Configurable Provision Relay 3, (9L7),KR161D Configurable Provision Relay 4
28	PRK LAMP RT	F28UA	15A	E4T Park/Turn Signal Lamp − Right Upper (Chevrolet/X88), E4R Park/Turn Signal Lamp − Right Lower (Chevrolet/X88), E4N Park/Turn Signal Lamp − Left (GMC/Z88), K166L Multifunction LED Control Module − Left Headlamp (GMC/Z88 with SLT), E2RM Side Marker Lamp − Right Middle (DPN or DQS), E2A Marker Lamp − Endgate (DRW), E3RR Rear Fender Clearance Lamp − Right Rear (DRW), E3RF Rear Fender Clearance Lamp − Right Front (DRW), E5AH Tail/Stop and Turn Signal Lamp − Right Upper (without ZW9), E5V Tail/Stop and Turn Signal Lamp − Right Lower (without ZW9), E2RR Side Marker Lamp − Right Rear (Z88 without ZW9), E5T Tail/Stop and Turn Signal Lamp − Right (ZW9)

				Right (ZW9)
29	PRK LAMP LT	F29UA	15A	E4S Park/Turn Signal Lamp − Left Upper (Chevrolet/X88),E4Q Park/Turn Signal Lamp − Left Lower (Chevrolet/X88), E3LF Rear Fender Clearance Lamp-Left Front (DRW).E3A Roof Clearance Lamp-Left front Outer (U01), E3C Roof Clearance Lamp-Front Middle (U01), E3E Clearance Lamp-Right Front Outer (U01), E3LR Rear Fender Clearance Lamp-Left Rear (DRW), E4N Park/Turn Signal Lamp − Left (GMC/Z88), K166L Multifunction LED Control Module − Left Headlamp (GMC/Z88 with SLT), E2LM Side Marker Lamp − Left Middle (DPN/DQS), E5AG Tail/Stop and Turn Signal Lamp − Left Upper (without ZW9), E5U Tail/Stop and Turn Signal Lamp − Left Lower (without ZW9), E2LR Side Marker Lamp − Left Rear (Z88 without ZW9), E5S Tail/Stop and Turn Signal Lamp − Left (ZW9)
30	UPFTR 3	F30UA	30A	W25 Blunt Cut − Configurable Provision (9L7 with E29), X61A Junction Block − Instrument Panel (9L7 without E29)
31	UPFTR SW4	F31UA	5A	KR161C Configurable Provision Relay 3 (9L7), KR161D Configurable Provision Relay 4 (9L7)
32	UPFTR 4	F32UA	30A	W25 Blunt Cut − Configurable Provision (9L7 with E29), X61A Junction Block − Instrument Panel (9L7 without E29)
33	BCK UP LAMP	F33UA	10A	A10 Inside Rearview Mirror, B87 Rearview Camera (UVC without E29), E5A Backup Lamp − Left, E5B Backup Lamp − Right
34	ECM IGN	F34UA	15A	K20 Engine Control Module, K38 Chassis Control Module, K111 Fuel Pump Driver Control Module (1500)
35	A/C CLTCH	F35UA	10A	KR29 A/C Compressor Clutch Relay
36	HTD MIR	F36UA	15A	E17D Outside Rearview Mirror Glass-Driver (DL8/DL3/DPN/DQS) , E17P Outside Rearview Mirror Glass-Passenger (DL8/DL3/DPN/DQS)
37	UPFTR 1	F37UA	30A	W25 Blunt Cut − Configurable Provision (9L7 with E29), X61A Junction Block − Instrument Panel (9L7 without E29)
38	CHMSL	F38UA	10A	E6 Center High Mounted Stop Lamp
39	MISC IGN	F39UA	10A	Not Used
40	TRANS IGN	F40UA	15A	T12 Automatic Transmission Assembly (MYC/MYD), M26 Front Axle Engagement Actuator, K71 Transmission Control Module
41	FUEL PUMP 2	F41UA	20A	KR23B Fuel Pump Relay − Secondary (L96)
42	COOL FAN CLTCH	F42UA	10A	KR20F Cooling Fan Relay (LML)
43	ENG	F43UA	15A	B75B Mass Air Flow/Intake Air Temperature Sensor (L96/LC8), B75C Multi Function Intake Air Sensor (1500), B198 Fuel Composition Sensor (1500)
44	INJ A ODD	F44UA	20A	K20 Engine Control Module (1500), T8A Ignition Coil 1, T8C Ignition Coil 3, T8E Ignition Coil 5, T8G Ignition Coil 7 (L83/L86/L96/LC8), K119 CNG Control Module (LC8)
45	INJ B EVEN	F45UA	20A	K20 Engine Control Module (1500), T8B Ignition Coil 2, T8D Ignition Coil 4, T8F Ignition Coil 6, T8H Ignition Coil 8 (L83/L86/L96/LC8), K119 CNG Control Module (LC8)
46	O2 SNSR B	F46UA	15A	B52D Heated Oxygen Sensor Bank 1 Sensor 2, B52F Heated Oxygen Sensor-Bank 2 Sensor 2

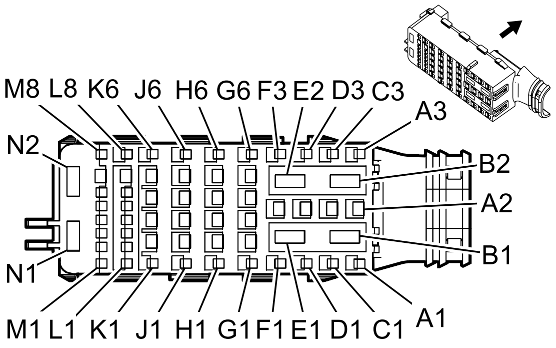
				Oxygen Sensor-Bank 2 Sensor 2
47	THROT CONT	F47UA	15A	K20 Engine Control Module (L96/LC8), B75C Multifunction Intake Air Sensor (LML),B212 Reductant Sensor Module (LML)
48	HORN	F48UA	15A	P12 Horn
49	FOG LAMP	F49UA	15A	E29LF Fog Lamp-Left Front, E29RF Fog Lamp-Right Front
50	O2 SNSR A	F50UA	15A	B52C Heated Oxygen Sensor Bank 1 Sensor 1 (without LML), B52E Heated Oxygen Sensor-Bank 2 Sensor 1 (without LML), Q12 Evaporative Emission Purge Solenoid Valve (without LML), Q43 Valve Lifter Oil Manifold Assembly (1500), Q44 Engine Oil Pressure Control Solenoid Valve (1500), B75B Mass Air Flow/Intake Air Temperature Sensor (LML)
51	ECM	F51UA	30A	K20 Engine Control Module (without L96/LC8)
52	INT HTR	F52UA	10A	KR81 Auxiliary Battery Relay 1 (K4B/K4D)
53	ACCY PWR MDL/TPIM PUMP	F53UA	10A	Not Used
54	FRT WASH	F54UA	15A	G24 Windshield Washer Pump
55	A/C CMPRSR MDL/BATT RVC	F55UA	5A	K9 Body Control Module
56	A/C CMPRSR MDL/BATT PCK	F56UA	10A	Not Used
57	TCM / ECM	F57UA	15A	K20 Engine Control Module, Q13 Evaporative Emission Vent Solenoid Valve (without LML), T12 Automatic Transmission Assembly (MYC/MYD), K71 Transmission Control Module (M5U/MW7)
58	HDLP RT / LT	F58UA	10A	E4E Headlamp-Left High Beam (X88), E4F Headlamp-Right High Beam (X88), K81L Headlamp High Beam Control Module − Left (Z88), K81R Headlamp High Beam Control Module − Right (Z88)
59	FUEL PUMP	KR23A Fuel Pump Relay	—	G12A Fuel Pump − Primary (L96 with N2N), KR160 Fuel Pump Disable Relay (LC8),G12 Fuel Pump (LML with N2N)
60	UPFTR 2	KR161B Configurable Provision Relay 2	—	F23UA (9L7)
61	UPFTR 3	KR161C Configurable Provision Relay 3	—	F30UA (9L7)
62	UPFTR 4	KR161D Configurable Provision Relay 4	—	F32UA (9L7)
63	TRLR PRK LAMPS	KR125 Trailer Park Lamps Relay	—	F15UA, F28UA, F29UA, K9 Body Control Module
64	RUN/CRNK	KR73 Ignition Main relay	—	F26UA (9L7), F31UA (9L7), F34UA, F39UA, F40UA, F41UA (2500/3500), F56UA
65	UPFTR 1	KR161A Configurable Provision Relay 1	—	F37UA (9L7)

66	FUEL PUMP 2	KR23B Fuel Pump Relay − Secondary	—	G12B Fuel Pump − Secondary (L96 with N2N)
67	A/C CNTRL	KR29 A/C Compressor Clutch Relay	—	Q2 A/C Compressor Clutch, K20 Engine Control Module
68	STRTR	KR27 Starter Relay	—	M64 Starter Motor
69	REAR DEFOG	KR5 Rear Defogger Relay	—	F10UA, F36UA
70	ECM	KR75 Engine Controls Ignition Relay	—	F42UA (LML), F43UA, F44UA, F45UA, F46UA, F47UA, F50UA, F51UA, KR29 A/C Compressor Clutch Relay
71	COOL FAN CLTCH	KR20F Cooling Fan Relay	—	K22 Cooling Fan Control Module (LML)
72	CKT 95	72	—	—
73	CKT 92	73	—	—
—	—	KR3 Horn Relay	—	F48UA
—	—	KR11 Windshield Washer Pump Relay	—	F54UA
—	—	KR12B Windshield Wiper Relay	—	KR12C Windshield Wiper Speed Control Relay
—	—	KR12C Windshield Wiper Speed Control Relay	—	M75 Windshield Wiper Motor
—	—	KR46 Front Fog Lamp Relay	—	F49UA (T3U)
—	—	KR48 Headlamp High Beam Relay	—	F58UA
—	—	KR59 Stop Lamp Relay	—	F38UA
—	—	KR61 Trailer Backup Lamp Relay	—	F16UA, F33UA
—	—	KR63L Trailer Stop/Turn Signal Lamp Relay-Left	—	F14UA
—	—	KR63R Trailer Stop/Turn Signal Lamp Relay-Right	—	F17UA

X50A Fuse Block - Underhood Bottom View



X50A Fuse Block - Underhood X1



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 33116190

Service Connector: 19329923

Description: 58-Way F 1.5, 2.8, 800 Metri-Pack Series (BN)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575718	J-35616-44 (YE)	J-38125-558	12110127	2	F	G
II	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

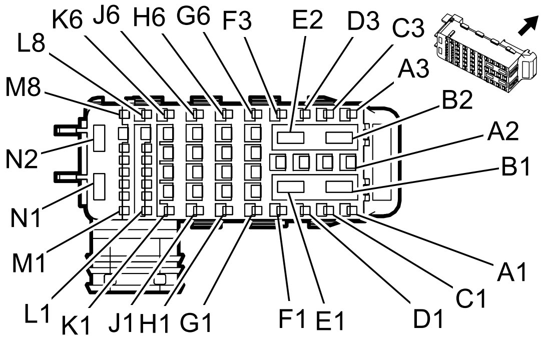
X50A Fuse Block - Underhood X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1 - B1	—	—	—	Not Occupied	—	—
B2	4	RD/GY	642	Battery Positive Voltage	I	—
C1 - C3	—	—	—	Not Occupied	—	—
D1	0.75	YE	712	Left Headlamp Low Beam Control	III	—
D2	—	—	—	Not Occupied	—	—
D3	0.75	L-GN/PU	1315	Right Front Turn Signal Lamp Control	III	—
E1	—	—	—	Not Occupied	—	—
E2	4	RD/WH	342	Battery Positive Voltage	I	—
F1	0.5	GY/BN	309	Right Park Lamp Control	III	—

F2	0.75	GY/VT	228	Windshield Washer Pump Control	II	—
F3	0.75	D-BU/WH	1314	Left Front Turn Signal Lamp Control	III	—
G1	0.5	VT/GY	709	Left Park Lamp Control	III	—
G2	—	—	—	Not Occupied	—	—
G3	0.5	VT/GY	3139	Run/Crank Ignition 1 Voltage	II	—
G4	0.5	BK	150	Ground	II	—
G5 - H1	—	—	—	Not Occupied	—	—
H2	0.75	GY/D-BU	7538	Left Front DRL Control	II	—
H3	—	—	—	Not Occupied	—	—
H4	0.5	WH	311	Right Headlamp High Beam Control	II	—
H5	—	—	—	Not Occupied	—	—
H6	0.75	D-BU/BN	7539	Right Front DRL Control	III	—
J1	—	—	—	Not Occupied	—	—
J2	0.75	BN/GY	29	Horn Control	II	—
J3	0.5	BN/VT	2234	Front Fog Lamp Control	II	—
J4	0.5	WH	711	Left Headlamp High Beam Control	II	—
J5	0.75	YE	312	Right Headlamp Low Beam Control	II	—
J6 - L5	—	—	—	Not Occupied	—	—
L6	0.5	GY/D-BU	3769	MGU Coolant Pump Control	III	—

L7 - M3	—	—	—	Not Occupied	—	—
M4	0.5	WH/D-BU	3203	Right Headlamp Bulb Outage Signal	III	—
M5	0.5	D-BU/VT	3204	Left Headlamp Bulb Outage Signal	III	—
M6 - N2	—	—	—	Not Occupied	—	—

X50A Fuse Block - Underhood X2



Connector Part Information

Harness Type: Engine

OEM Connector: 33116191

Service Connector: 19332891

Description: 58-Way F 1.5, 2.8, 800 Metri-Pack Series (GN)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575718	J-35616-44 (YE)	J-38125-558	12110127	2	F	G
II	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X50A Fuse Block - Underhood X2

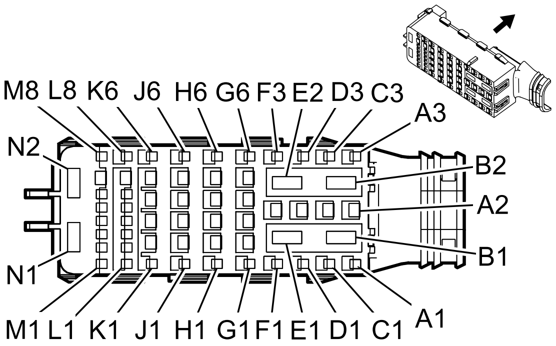
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1	0.5	WH/GY	459	A/C Compressor Clutch Relay Control	III	—
A2	0.5	YE/D-BU	5126	After Boil Heater Pump Control	II	—
A3 - B2	—	—	—	Not Occupied	—	—
C1	0.75	BN/L-GN	59	A/C Compressor Clutch Control	III	—
C2 - D2	—	—	—	Not Occupied	—	—
D3	0.5	YE/BK	625	Starter Enable Relay Control	III	—
E1	2.5	BN/VT	1470	Brake Booster Pump Motor Control	I	—
E2	3	YE/VT	6	Starter Solenoid Crank Ignition Voltage	I	—

	4	YE	6			—
F1	—	—	—	Not Occupied	—	—
F2	2.5	BK	550	Ground	II	—
F3	—	—	—	Not Occupied	—	—
G1	0.5	WH	2368	Cooling Fan Control Signal	III	—
G2	—	—	—	Not Occupied	—	—
G3	0.5	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	II	—
	0.75	VT/D-BU	5293			—
G4	2.5	VT/D-BU	5290	Powertrain Main Relay Fused Supply (1)	II	—
G5	0.75	RD/L-GN	1840	Battery Positive Voltage	II	—
	1.5	RD/L-GN	1840			—
G6	0.5	RD/WH	3440	Battery Positive Voltage	III	—
H1	0.5	L-GN/GY	465	Fuel Pump Primary Relay Control	III	—
H2	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	II	—
	1.5	VT/D-BU	5291			—
H3	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	II	—
H4	—	—	—	Not Occupied	—	—
H5	0.5	RD/BN	440	Battery Positive Voltage	II	—
H6	0.5	YE	5991	Powertrain Relay Coil Control	III	—

[illegible]	0.5	YE	[illegible]	Powertrain Relay Coil Control	III	—
J1	—	—	—	Not Occupied	—	—
J2	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	II	—
J3	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	II	—
J4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	II	—
	1.5	VT/D-BU	5292			—
J5	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	II	—
J6	0.75	VT/D-BU	5290	Powertrain Main Relay Fused Supply (1)	III	—
K1 - K2	—	—	—	Not Occupied	—	—
K3	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	II	—
K4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	II	—
K5	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	II	—
K6 - L5	—	—	—	Not Occupied	—	—
L6	0.5	RD/WH	2740	Battery Positive Voltage	III	—
L7	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage	II	—
L8	—	—	—	Not Occupied	—	—
M1	0.5	YE/D-BU	1465	Secondary Fuel Pump Relay Control	III	—
M2	—	—	—	Not Occupied	—	—
M3	0.5	WH/BK	2366	Cooling Fan Control Relay Speed Signal	III	—

	0.5	VT/YE	3854	Cabin Heater Coolant Motor Control		—
M4	0.5	WH/BN	3768	MGU Coolant Pump Relay Control	III	—
M5	0.5	GY	5660	Fuel Pump Controller Data Out Signal	III	—
M6	0.75	BK/WH	451	Signal Ground	III	—
M7	0.5	VT/L-GN	439	Run/Crank Ignition 1 Voltage	II	—
M8	0.5	VT/WH	239	Run/Crank Ignition 1 Voltage	III	—
N1	2.5	RD/L-GN	742	Battery Positive Voltage	I	—
N2	—	—	—	Not Occupied	—	—

X50A Fuse Block - Underhood X3



Connector Part Information

Harness Type: Body

OEM Connector: 33116188

Service Connector: 19332892

Description: 58-Way F 1.5, 2.8, 800 Metri-Pack Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575718	J-35616-44 (YE)	J-38125-558	12092445	16	G	G
II	13575718	J-35616-44 (YE)	J-38125-558	12110127	2	F	G
III	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
IV	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

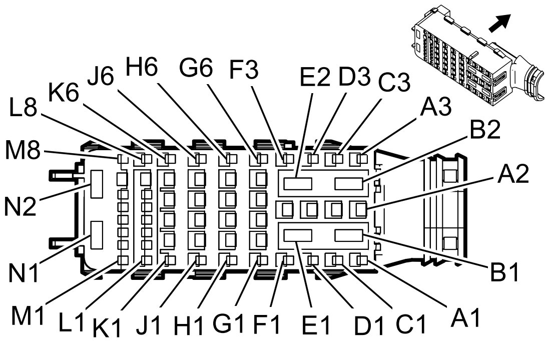
X50A Fuse Block - Underhood X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1	0.5	YE/D-BU	18	Left Rear Stop/Turn Lamp Control	IV	—
A2 - A3	—	—	—	Not Occupied	—	—
B1	4	RD/GY	1342	Battery Positive Voltage	I	—
B2	2.5	RD/D-BU	1842	Battery Positive Voltage	II	—
C1	0.5	BN/L-GN	19	Right Rear Stop/Turn Lamp Control	IV	—
C2 - C3	—	—	—	Not Occupied	—	—
D1	0.75	L-GN/VT	1315	Right Front Turn Signal Lamp Control	IV	—

D2	0.35	D-BU/VT	1124	Door Lock Key Switch Unlock Signal	III	—
D3 - E2	—	—	—	Not Occupied	—	—
F1	0.75	D-BU/WH	1314	Left Front Turn Signal Lamp Control	IV	—
F2	0.35	WH/VT	3270	Driver Door Lock Motor Status Signal	III	—
F3	0.5	YE/WH	962	—	IV	—
G1	0.75	D-BU/BN	7539	Right Front DRL Control	IV	—
G2 - H1	—	—	—	Not Occupied	—	—
H2	1	BK	550	Ground	III	—
H3 - H6	—	—	—	Not Occupied	—	—
J1	0.35	WH/VT	860	Front Windshield Wiper Switch High Signal	IV	—
J2 - J6	—	—	—	Not Occupied	—	—
K1	0.5	VT/WH	5065	Stop Lamp Relay Coil Control	IV	—
K2	—	—	—	Not Occupied	—	—
K3	1	YE/BN	95	Windshield Wiper Motor Low Speed Control	III	—
K4	1	WH	92	Windshield Wiper Motor High Speed Control	III	—
K5	—	—	—	Not Occupied	—	—
K6	0.35	BN/GY	2268	Windshield Washer Relay Control	IV	—
L1	—	—	—	Not Occupied	—	—
L2	0.35	BN/VT	1969	Headlamp High Beam Relay Control	IV	—
L3	—	—	—	Not Occupied	—	—

L4	0.35	GY	91	Windshield Wiper Motor Relay Coil Control	IV	—
L5	0.5	BN	1317	Fog Lamp Relay Control	IV	—
L6	0.35	BN/WH	28	Horn Relay Control	IV	—
L7	0.5	BN/YE	2267	Mirror Heating Element Control	III	—
L8	—	—	—	Not Occupied	—	—
M1	0.75	YE	312	Right Headlamp Low Beam Control	IV	—
M2 - M4	—	—	—	Not Occupied	—	—
M5	0.5	RD/WH	961	—	IV	—
M6	0.5	VT/GY	1054	Stop Lamp Control	IV	—
M7	2.5	D-BU	965	—	III	—
M8 - N2	—	—	—	Not Occupied	—	—

X50A Fuse Block - Underhood X4



Connector Part Information

Harness Type: Body

OEM Connector: 33116186

Service Connector: 19332893

Description: 58-Way F 1.5, 2.8, 800 Metri-Pack Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575718	J-35616-44 (YE)	J-38125-558	12110127	2	F	G
II	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

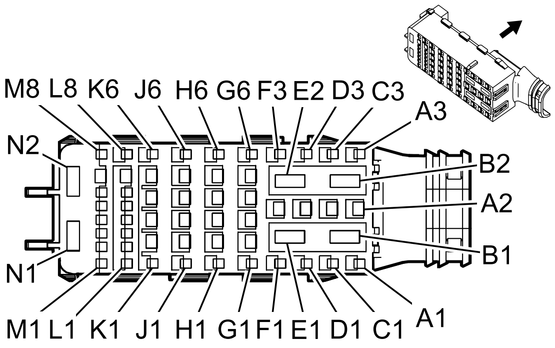
X50A Fuse Block - Underhood X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1 - A2	—	—	—	Not Occupied	—	—
A3	0.5	L-GN/WH	24	Backup Lamp Control	III	—
B1	—	—	—	Not Occupied	—	—
B2	5	RD/VT	842	Battery Positive Voltage	I	—
C1 - D2	—	—	—	Not Occupied	—	—
D3	0.5	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	III	—
E1	—	—	—	Not Occupied	—	—
E2	5	RD/D-BU	42	Battery Positive Voltage	I	—
F1 - F2	—	—	—	Not Occupied	—	—

F3	0.35	L-GN/WH	24	Backup Lamp Control	III	—
G1	—	—	—	Not Occupied	—	—
G2	2.5	GY/BK	966	—	II	—
G3 - G5	—	—	—	Not Occupied	—	—
G6	0.5	YE/BK	5356	Left Tail Lamp Outage Detection Signal	III	—
H1 - H4	—	—	—	Not Occupied	—	—
H5	2.5	RD/L-GN	242	Battery Positive Voltage	II	—
H6	0.5	VT/YE	5357	Right Tail Lamp Outage Detection Signal	III	—
J1	0.75	GY/D-BU	7538	Left Front DRL Control	III	—
J2 - J5	—	—	—	Not Occupied	—	—
J6	0.75	BK/WH	451	Signal Ground	III	—
K1	0.75	YE	712	Left Headlamp Low Beam Control	III	—
K2	2.5	RD/L-GN	968	—	II	—
K3 - K4	—	—	—	Not Occupied	—	—
K5	2.5	YE/BN	967	—	II	—
K6	0.5	VT/GY	709	Left Park Lamp Control	III	—
L1	0.5	WH/D-BU	964	—	III	—
L2	0.35	YE/GY	5187	Right Trailer Turn Signal Lamp Control	III	—
L3	0.35	D-BU/BN	38	Backup Lamp Relay Control	III	—

L4	0.35	D-BU/WH	5186	Left Trailer Turn Signal Lamp Control	III	—
L5	0.35	D-BU	45	Park Lamp Relay Control	III	—
L6	0.5	L-GN/GY	963	—	III	—
L7	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage	II	—
L8	—	—	—	Not Occupied	—	—
M1	0.75	RD/YE	2340	Battery Positive Voltage	III	—
M2	0.35	BN/VT	193	Rear Defog Relay Control	III	—
M3 - M4	—	—	—	Not Occupied	—	—
M5	0.35	L-GN/VT	5199	Run/Crank Relay Coil Control	III	—
M6 - M8	—	—	—	Not Occupied	—	—
N1	2.5	BN/VT	293	Rear Defog Element Control	I	—
N2	—	—	—	Not Occupied	—	—

X50A Fuse Block - Underhood X5



Connector Part Information

Harness Type: Chassis

OEM Connector: 33116189

Service Connector: 19332894

Description: 58-Way F 1.5, 2.8, 800 Metri-Pack Series (NA)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575718	J-35616-44 (YE)	J-38125-558	12110127	2	F	G
II	13575808	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
III	13575832	J-35616-35 (VT)	J-38125-11A	7116-4112-02	14	C	D
IV	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
V	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

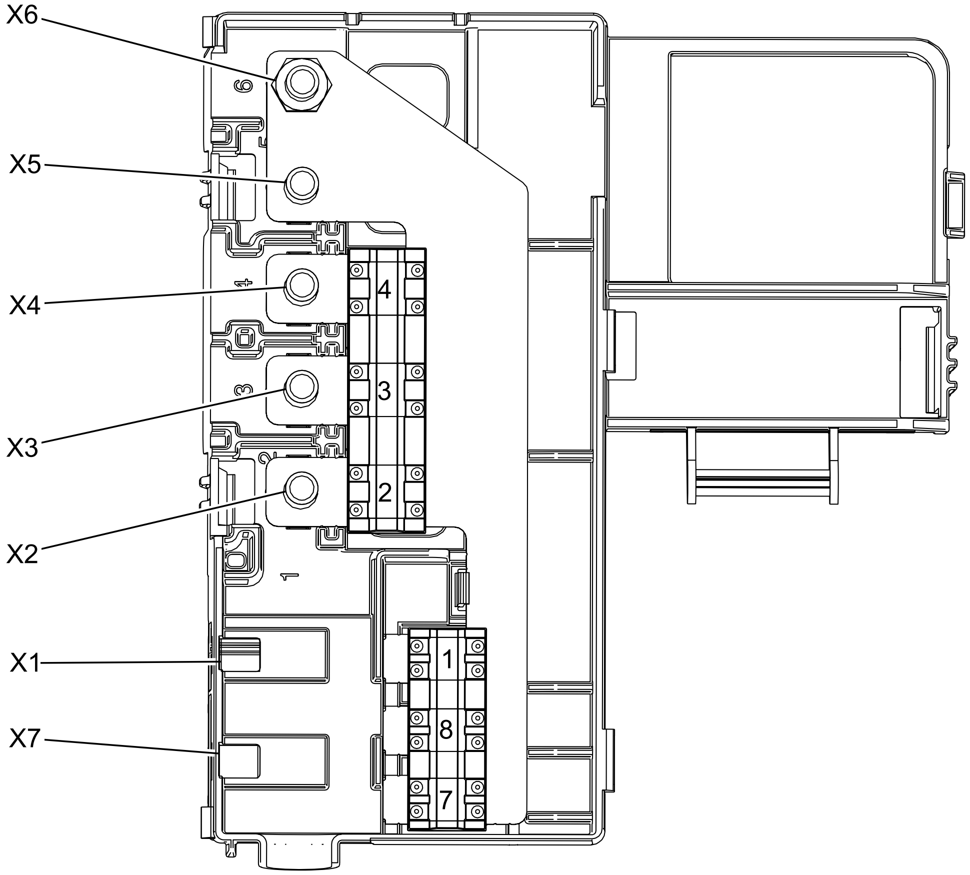
X50A Fuse Block - Underhood X5

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1	—	—	—	Not Occupied	—	—
A2	0.75	YE/L-GN	18	Left Rear Stop/Turn Lamp Control	IV	—
A3	0.75	BN/L-GN	19	Right Rear Stop/Turn Lamp Control	V	—
B1	5	RD/YE	442	Battery Positive Voltage	I	—
B2	—	—	—	Not Occupied	—	—
C1	0.75	L-GN/WH	24	Backup Lamp Control	V	—
C2	2.5	RD/YE	1142	Battery Positive Voltage	IV	—

C3	—	—	—	Not Occupied	—	—
D1	0.5	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	V	—
D2	1.5	GY	120	Fuel Pump Control	IV	—
D3 - E2	—	—	—	Not Occupied	—	—
F1	0.5	L-GN	24	Backup Lamp Control	V	—
F2 - F3	—	—	—	Not Occupied	—	—
G1	0.5	YE/BK	5356	Left Tail Lamp Outage Detection Signal	V	—
G2	2.5	RD/VT	1940	Battery Positive Voltage	IV	—
G3	3	RD/L-GN	2440	Battery Positive Voltage	III	—
G4	0.75	RD/WH	2040	Battery Positive Voltage	IV	—
G5 - G6	—	—	—	Not Occupied	—	—
H1	0.5	VT/YE	5357	Right Tail Lamp Outage Detection Signal	V	—
H2	—	—	—	Not Occupied	—	—
H3	0.5	RD/L-GN	1840	Battery Positive Voltage	IV	—
H4 - J1	—	—	—	Not Occupied	—	—
J2	2.5	RD/L-GN	242	Battery Positive Voltage	IV	—
J3	1.5	GY/BN	2109	Trailer Park Lamp Control	IV	—
J4	2.5	RD/VT	1640	Battery Positive Voltage	IV	—
J5	0.5	VT/L-GN	439	Run/Crank Ignition 1 Voltage	IV	—

	0.75	PU/L-GN	439			—
J6 - K1	—	—	—	Not Occupied	—	—
K2	0.75	VT/GY	709	Left Park Lamp Control	IV	—
K3	—	—	—	Not Occupied	—	—
K4	0.5	GY/BN	309	Right Park Lamp Control	IV	—
K5	0.75	YE/GY	1618	Left Rear Trailer Stop/Turn Lamp Control	IV	—
K6	0.75	L-GN/VT	1619	Right Rear Trailer Stop/Turn Lamp Control	V	—
L1 - L4	—	—	—	Not Occupied	—	—
L5	0.5	BN	6305	Brake Vacuum Switch Signal	V	—
L6	—	—	—	Not Occupied	—	—
L7	2.5	GY	120	Fuel Pump Control	IV	—
L8	—	—	—	Not Occupied	—	—
M1	0.5	VT/GY	1054	Stop Lamp Control	V	—
M2 - M4	—	—	—	Not Occupied	—	—
M5	0.5	GY	5660	Fuel Pump Controller Data Out Signal	II	—
M6	—	—	—	Not Occupied	—	—
M7	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	IV	—
M8	0.75	WH/L-GN	1624	Trailer Backup Lamp Control	V	—
N1	—	—	—	Not Occupied	—	—
N2	4	RD/L-GN	742	Battery Positive Voltage	I	—

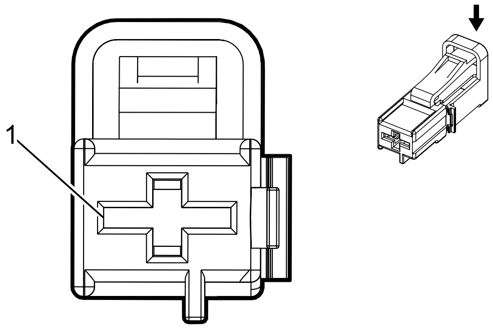
X50D Fuse Block - Battery Top View



X50D Fuse Block – Battery Usage

No.	Device Label Name	Device Assigned Name	Rating	Description
1	-	F1UD	100A	KR79 Auxiliary Battery Relay 2 (5W4 or 9C1)
2	-	F2UD	175A	G13 Generator, X50A Fuse Block - Underhood
3	-	F3UD	-	Not Occupied
4	-	F4UD	175A	K43 Power Steering Control Module
5	-	F7UD	60A	X51R Fuse Block - Instrument Panel Right
6	-	F8UD	60A	X51R Fuse Block - Instrument Panel Right

X50D Fuse Block - Battery X1



Connector Part Information

Harness Type: Body

OEM Connector: 13629098

Service Connector: Service by Component - See Part Catalog

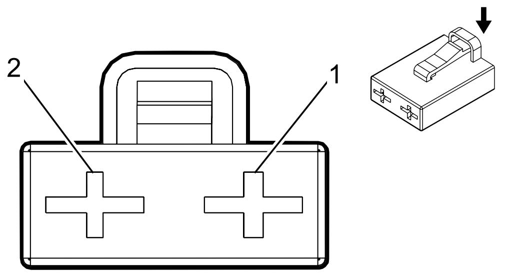
Description: 1-Way F 8.0 Series (BU)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-22 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required

X50D Fuse Block - Battery X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	10	RD/GY	642	Battery Positive Voltage	I	—



Connector Part Information

Harness Type: Body

OEM Connector: 13627842

Service Connector: 19329484

Description: 2-Way F 8.0 Series (BU)

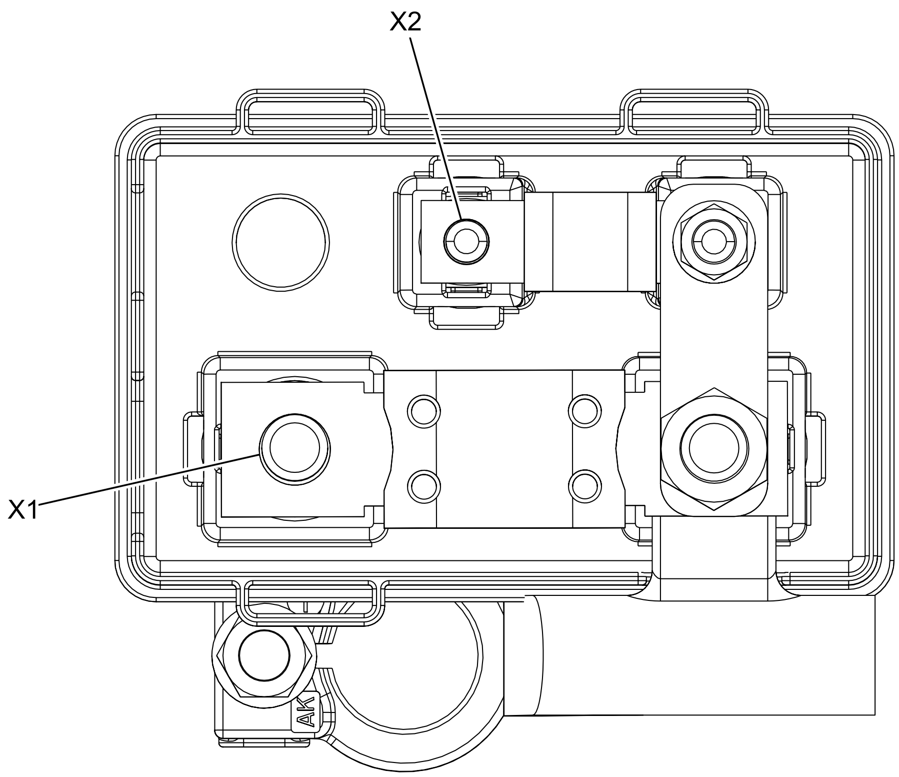
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-22 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required

X50D Fuse Block - Battery X7

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	6	RD/GY	142	Battery Positive Voltage	I	—
2	6	RD/L-GN	242	Battery Positive Voltage	I	—

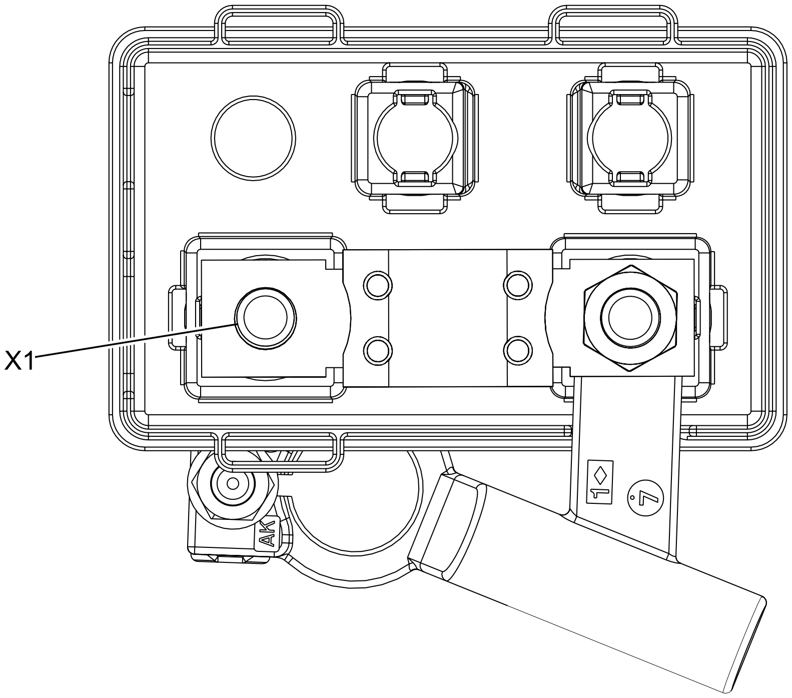
X50E Fuse Block - Auxiliary Battery Top View (K4B or K4D)



X50E Fuse Block – Auxiliary Battery Usage (K4B or K4D)

No.	Device Label Name	Device Assigned Name	Rating	Description
Enter Type of Device Name Here and Insert this Type of Row before Every Different Type of Device within the Block				
1	-	F1UE	125A	KR79 Auxiliary Battery Relay 2
2	-	F2UE	30A	W1 Blunt Cut – Camper Trailer Provision (UY2), X88 Trailer Connector (Z82)

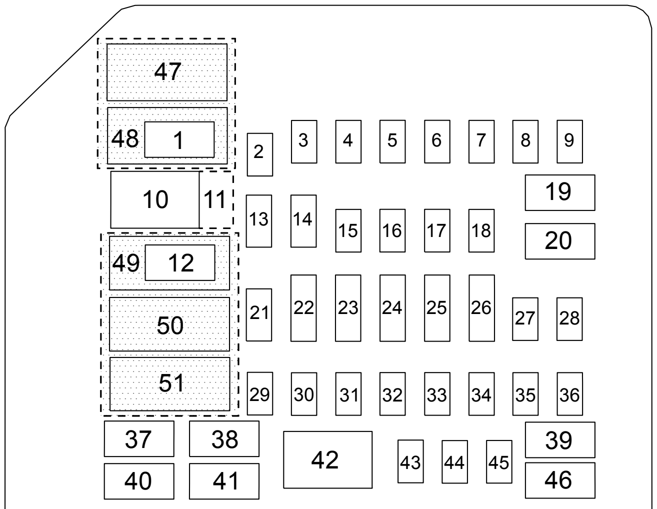
X50E Fuse Block - Auxiliary Battery Top View (LML)



X50E Fuse Block – Auxiliary Battery Usage (LML)

No.	Device Label Name	Device Assigned Name	Rating	Description
Fuses				
1	-	F1UE	175A	G13E Generator – Auxiliary (KH5 or KHB)

X51L Fuse Block - Instrument Panel Left Label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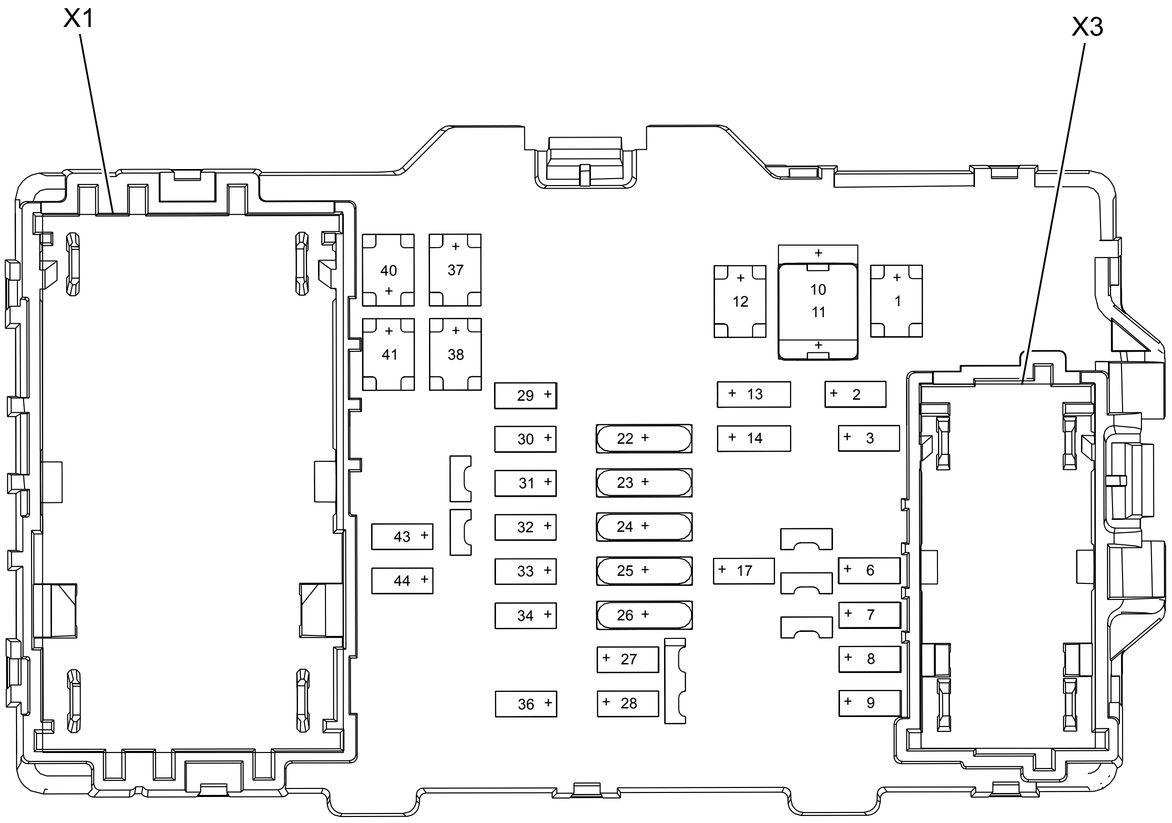
1 AP0 2 (15A)
2 SE0 RAP (10A)
3 UGDO / ISRVM (10A)
4 EMPTY
5 EMPTY
6 BCM 3 (20A)
7 BCM 5 (10A)
8 MIR WNDW MDL (5A)
9 SPARE (15A)
10 EMPTY
11 AP0 (50A)
12 AP0 1/LTR (15A)
13 DLIS (2A)
14 SWC BKLT (2A)
15 EMPTY
16 EMPTY
17 BCM 1 (10A)
18 EMPTY

19 EMPTY
20 EMPTY
21 EMPTY
22 HVAC/AUX HVAC IGN (15A/15A)
23 IPC IGN/SDM IGN (10A/10A)
24 SPARE(15A/15A)
25 DLC/DSM (10A/10A)
26 PEPS/HVAC (10A/10A)
27 SPARE (10A)
28 SPARE (10A)
29 PRK ENBL/EAP (15A)
30 SEO ALC (15A)
31 ACCY/RUN CRNK (10A)
32 HTD WHL (7.5A)
33 SPARE (10A)
34 IPC (10A)
35 EMPTY
36 SPARE (15A)

37 SPARE (30A)
38 4WD TREC (30A)
39 EMPTY
40 LT DRS (30A)
41 DRVR PWR SEAT (30A)
42 EMPTY
43 LT HTD CLD SEAT (15A)
44 RT HTD CLD SEAT (30A)
45 SPARE (15A)
46 EMPTY
47 EMPTY
48 EMPTY
49 RAP/ACCY
50 RUN/CRNK
51 EMPTY

X51L Fuse Block - Instrument Panel Left Top View



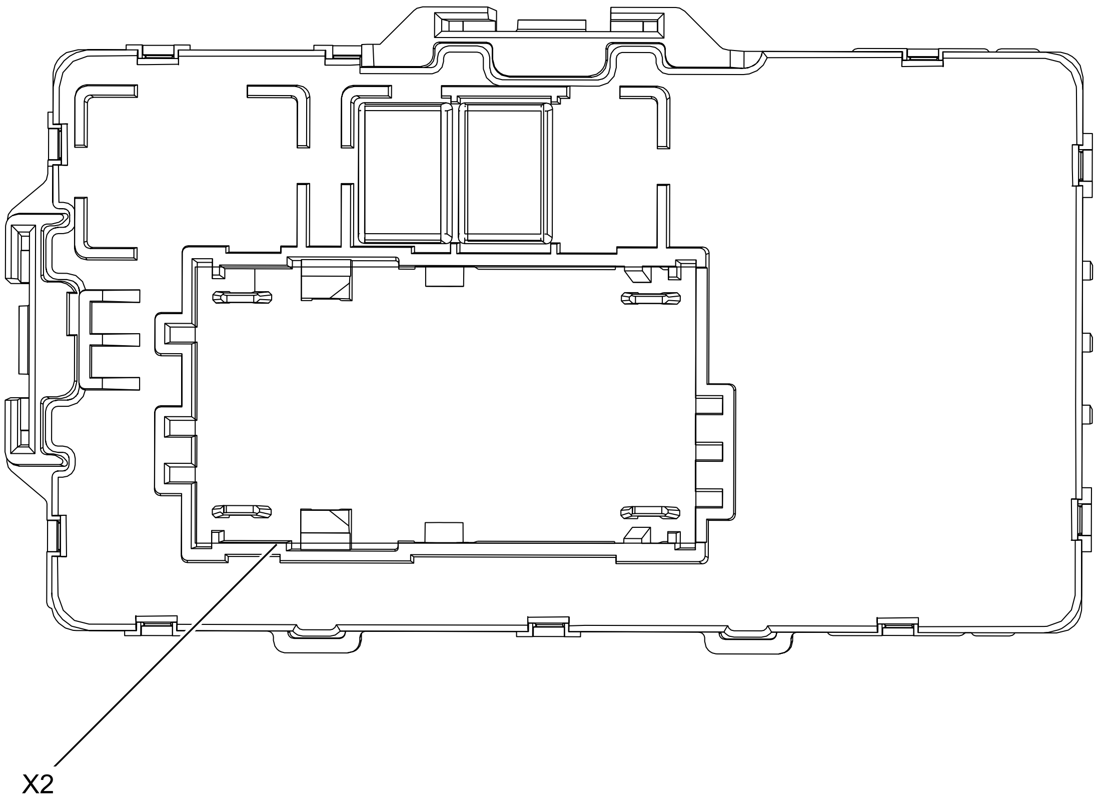
X51L Fuse Block – Instrument Panel Left Label Usage (Fuses)

No.	Device Label Name	Device Assigned Name	Rating	Description
1	APO 2	F1DL	15A	X80K Accessory Power Receptacle-Instrument Panel 2 (D07), X80G Accessory Power Receptacle − Instrument Panel (except D07)
2	SEO RAP	F2DL	10A	M69 Sunroof Motor (CF5), X61A Junction Block-Instrument Panel (except E29), S68 Sliding Rear Window Switch (A48)
3	UGDO/ISRVM	F3DL	10A	S25 Garage Door Opener (CF5), S63 Roof Beacon Switch (TRW)
4	EMPTY	F4DL	—	Not Used
5	EMPTY	F5DL	—	Not Used
6	BCM 3	F6DL	20A	K9 Body Control Module
7	BCM 5	F7DL	10A	K9 Body Control Module
8	MIR WNDW MDL	F8DL	5A	S52 Outside Rearview Mirror Switch (A31) S79D Window Switch

				− Driver (A31)
9	SPARE	F9DL	15A	Not Used
10	APO/RAP	F10DL	50A	F1DL,F12DL
11	APO/BATT	F11DL	50A	F1DL, F12DL
12	APO 1/LTR	F12DL	15A	X80J Accessory Power Receptacle-Instrument Panel 1 (D07)
13	DLIS	F13DL	2A	S39 Ignition Switch
14	SWC BKLT	F14DL	2A	S70L Steering Wheel Controls Switch − Left (except UK3)
15	EMPTY	F15DL	—	Not Used
16	EMPTY	F16DL	—	Not Used
17	BCM 1	F17DL	10A	K9 Body Control Module,X63A Junction Block − Rear Body,KR59 Stop Lamp Relay,E37ER Dome/ Reading Lamps − Front Overhead Console Right,E37EL Dome/ Reading Lamps − Front Overhead Console Left,S5 Center Console Compartment Lamp Switch (D07),E37B Dome/ Reading Lamps − 2nd Row (except U42),P22A Video Display − 2nd Row (U42),A3L Sunshade − Left (DH6),A3R Sunshade − Right (DH6)
18	EMPTY	F18DL	—	Not Used
19	EMPTY	F19DL	—	Not Used
20	EMPTY	F20DL	—	Not Used
21	EMPTY	F21DL	—	Not Used
22	HVAC/AUX HVAC IGN	F22DL	15A	K33 HVAC Control Module,E40 Electrical Auxiliary Heater (C32)
23	IPC IGN/SDM IGN	F23DL	10A	P14 Passenger Air Bag Disable Indicator (AL0/C99), P16 Instrument Cluster, P43 Collision Alert Indicators (UEU)
24	SPARE	F24DL	15A	Not Used
25	DLC/DSM	F25DL	10A	K40 Seat Memory Control Module (A45/UFL), X84 Data Link Connector
26	PEPS/HVAC	F26DL	10A	K33 HVAC Control Module
27	SPARE	F27DL	10A	Not Used
28	SPARE	F28DL	10A	Not Used
29	PRK ENBL/EAP	F29DL	15A	KR1F Adjustable Pedal Relay − Forward,KR87 Park Brake Relay,KR1R Adjustable Pedal Relay − Rearward
30	SEO ALC	F30DL	15A	X61A Junction Block-Instrument Panel (except E29)
31	ACCY/RUN CRNK	F31DL	10A	A10 Inside Rearview Mirror (DD8),K69 Transfer Case Control Module (NQH),B87 Rearview Camera (UVC),S48A Multifunction Switch − Instrument Panel (PTO)
32	HTD WHL	F32DL	7.5A	K32 Steering Wheel Heating Control Module (UVD)
33	SPARE	F33DL	10A	Not Used

34	IPC	F34DL	10A	P16 Instrument Cluster, P17 Info Display Module, S31D Seat Heating and Cooling Switch-Driver (KA1/KB6), S13P Seat Heating and Cooling Switch-Passenger (KA1/KB6)
35	EMPTY	F35DL	—	Not Used
36	SPARE	F36DL	15A	Not Used
37	SPARE	F37DL	30A	Not Used
38	4WD TREC	F38DL	30A	Not Used
39	EMPTY	F39DL	—	Not Used
40	LT DRS	F40DL	30A	M74D Window Motor-Driver (A31), S79LR Window Switch-Left Rear (Crew Cab/Extended Cab)
41	DRVR PWR SEAT	F41DL	30A	K40 Seat Memory Control Module (A45/A95/AG1/AN3/B3F), S64D Seat Adjuster Switch-Driver (A45/A95/AG1/AN3/B3F)
42	EMPTY	F42DL	—	Not Used
43	LT HTD CLD SEAT	F43DL	15A	K29 Seat Heating Control Module (KA1), K53D Seat Blower Assembly-Driver Back (KB6), K55D Seat Blower Assembly-Driver Cushion (KB6)
44	RH FRT HTD CLD SEAT	F44DL	15A	K29 Seat Heating Control Module (KA1). K53P Seat Blower Assembly-Passenger Back (KB6), K55P Seat Blower Assembly-Passenger Cushion (KB6)
45	SPARE	F45DL	15A	Not Used
46	EMPTY	F46DL	—	Not Used

X51L Fuse Block - Instrument Panel Left Bottom View

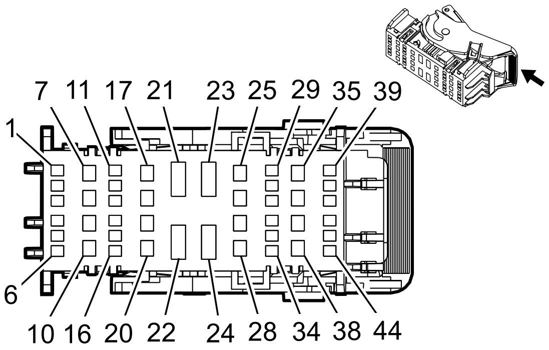


X51L Fuse Block – Instrument Panel Left Label Usage (Relays)

No.	Device Label Name	Device Assigned Name	Rating	Description
47	EMPTY	—	—	Not Used
48	EMPTY	—	—	Not Used
49	RAP/ACCY	KR76A Retained Accessory Power Relay 1	—	F1DL, F2DL, F10DL, F12DL
50	RUN/CRNK	KR73 Ignition Main Relay	—	F22DL, F23DL, F30DL, F31DL, F32DL, F33DL
51	EMPTY	—	—	Not Used
Note: Relays listed below are non-serviceable Printed Circuit Board (PCB) relays and are internal to the block.				
—	—	KR1F Adjustable Pedal Relay − Forward	—	M5 Adjustable Pedal Motor
—	—	KR1R Adjustable	—	M5 Adjustable Pedal Motor

—	—	KR1R Adjustable Pedal Relay − Rearward	—	M5 Adjustable Pedal Motor
—	—	KR87 Transmission Park Relay	—	KR1F Adjustable Pedal Relay − Forward, KR1R Adjustable Pedal Relay − Rearward

X51L Fuse Block - Instrument Panel Left X1



Connector Part Information

Harness Type: Body

OEM Connector: 13967687

Service Connector: 19329455

Description: 44-Way F 1.5, 2.8, 800 Metri-Pack Series (BK)

Terminal Part Information

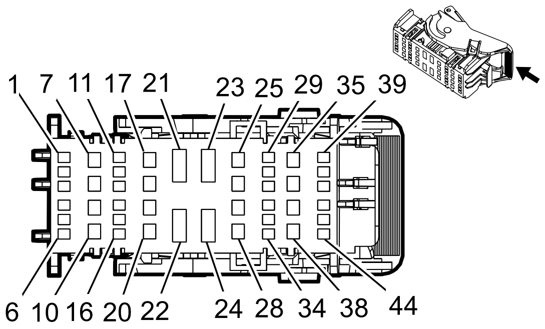
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575718	J-35616-44 (YE)	J-38125-558	12110127	2	F	G
II	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X51L Fuse Block - Instrument Panel Left X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 4	—	—	—	Not Occupied	—	—
5	0.5	RD/BN	1140	Battery Positive Voltage	III	—
6 - 14	—	—	—	Not Occupied	—	—
15	0.35	L-GN/GY	5286	Adjustable Pedal Switch Forward Signal	III	—
16	0.5	RD/VT	1940	Battery Positive Voltage	III	—
17	0.75	RD/L-GN	6140	Battery Positive Voltage	II	—
18	0.75	RD/L-GN	5140	Battery Positive Voltage	II	—
19	—	—	—	Not Occupied	—	—

20	0.75	L-GN/VT	5130	Adjustable Pedal Actuator Forward Control	II	—
21	5	RD/VT	842	Battery Positive Voltage	I	—
22	—	—	—	Not Occupied	—	—
23	5	RD/D-BU	42	Battery Positive Voltage	I	—
24 - 26	—	—	—	Not Occupied	—	—
27	2.5	RD/YE	5040	Battery Positive Voltage	II	—
28	0.75	YE	5129	Adjustable Pedal Actuator Rearward Control	II	—
29	0.5	VT/BK	739	Run/Crank Ignition 1 Voltage	III	—
30	0.5	VT/WH	1939	Run/Crank Ignition 1 Voltage	III	—
31	—	—	—	Not Occupied	—	—
32	0.5	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	III	—
33	0.35	WH/GY	5285	Adjustable Pedal Switch Rearward Signal	III	—
34 - 35	—	—	—	Not Occupied	—	—
36	2.5	RD/D-BU	1842	Battery Positive Voltage	II	—
37	2.5	RD/D-BU	1842	Battery Positive Voltage	II	—
38 - 41	—	—	—	Not Occupied	—	—
42	0.35	L-GN/VT	5199	Run/Crank Relay Coil Control	III	—
43	0.35	GY/VT	755	RAP Relay Coil Control	III	—
44	0.35	VT/YE	43	Accessory Ignition Voltage	III	—

X51L Fuse Block - Instrument Panel Left X2



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13967688

Service Connector: 19329456

Description: 44-Way F 1.5, 2.8, 800 Metri-Pack Series (GY)

Terminal Part Information

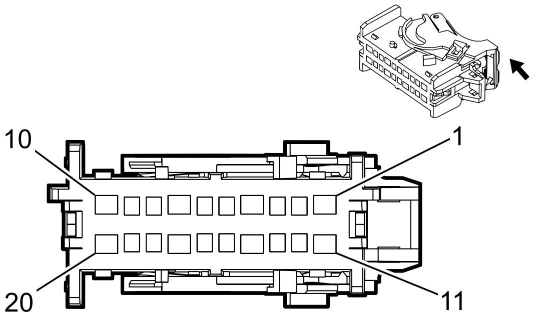
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
II	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X51L Fuse Block - Instrument Panel Left X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	YE	6817	LED Backlight Dimming Control	II	—
4	0.35	BN	6136	Control	II	—
5	0.5	RD/D-BU	540	Battery Positive Voltage	II	—
6	—	—	—	Not Occupied	—	—
7	0.5	RD/BN	2940	Battery Positive Voltage	I	—
8	1	RD/GY	2140	Battery Positive Voltage	I	—
9	—	—	—	Not Occupied	—	—
10	1.5	RD/BN	4240	Battery Positive Voltage	I	—

11 - 14	—	—	—	Not Occupied	—	—
15	0.5	VT/GY	539	Run/Crank Ignition 1 Voltage	II	—
16 - 17	—	—	—	Not Occupied	—	—
18	0.5	RD/WH	2740	Battery Positive Voltage	I	—
19	—	—	—	Not Occupied	—	—
20	1.5	RD/WH	1040	Battery Positive Voltage	I	—
21 - 24	—	—	—	Not Occupied	—	—
25	0.5	RD/VT	3340	Battery Positive Voltage	I	—
26	0.5	RD/WH	640	Battery Positive Voltage	I	—
27	—	—	—	Not Occupied	—	—
28	0.5	VT/BK	1639	Run/Crank Ignition 1 Voltage	I	—
29 - 34	—	—	—	Not Occupied	—	—
35	0.5	RD/GY	2840	Battery Positive Voltage	I	—
36	—	—	—	Not Occupied	—	—
37	0.5	VT/WH	1139	Run/Crank Ignition 1 Voltage	I	—
38	0.35	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	I	—
39 - 42	—	—	—	Not Occupied	—	—
43	0.35	YE	6812	Out of Park Signal	II	—
44	0.75	BK	1850	Ground	II	—

X51L Fuse Block - Instrument Panel Left X3



Connector Part Information

Harness Type: Headliner

OEM Connector: 15547106

Service Connector: 13597270

Description: 20-Way F 1.5, 2.8 OCS Series (BK)

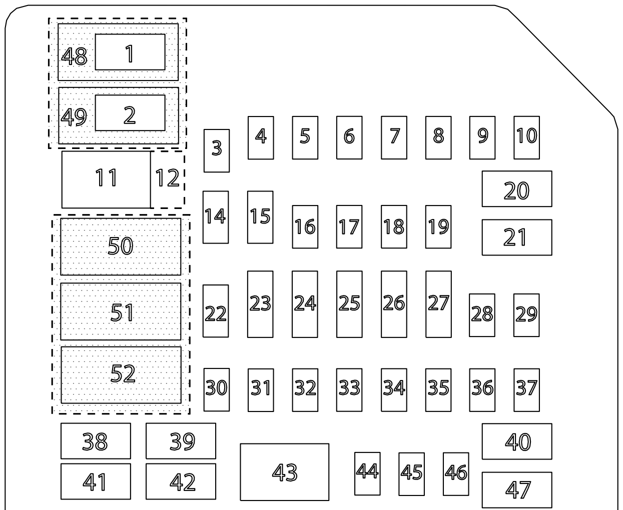
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
II	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X51L Fuse Block - Instrument Panel Left X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 10	—	—	—	Not Occupied	—	—
11	0.35	VT/YE	43	Accessory Ignition Voltage	I	—
12	0.5	RD/YE	240	Battery Positive Voltage	II	—
13	0.35	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	II	—
14	0.35	VT/BK	1139	Run/Crank Ignition 1 Voltage	I	—
15 - 20	—	—	—	Not Occupied	—	—

X51R Fuse Block - Instrument Panel Right Label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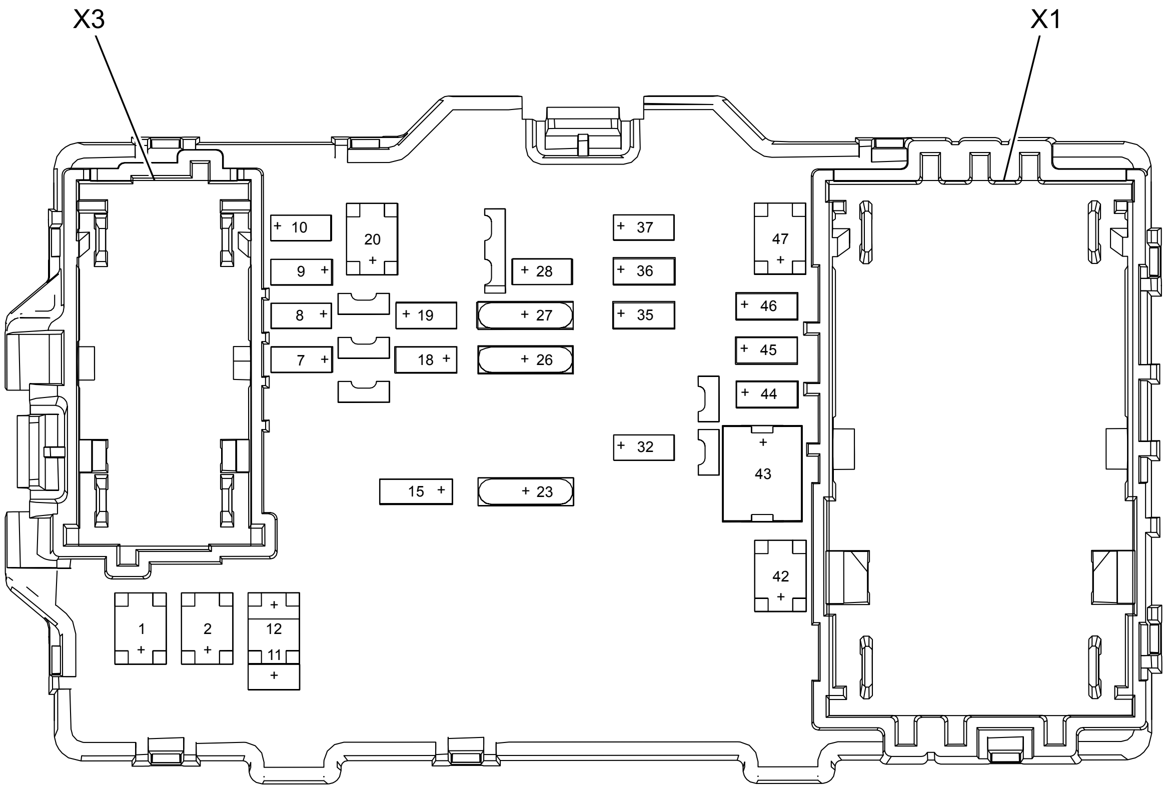
2	APO 4 (15A)
3	EMPTY
4	EMPTY
5	EMPTY
6	EMPTY
7	BCM 4 (20A)
8	BCM 8 (20A)
9	RSE (10A)
10	CARGO LAMP (15A)
11	EMPTY
12	EMPTY
14	EMPTY
15	STR WHL CNTRL (2A)
16	EMPTY
17	EMPTY
18	RDO (20A)
19	RT FRT WNDW SW (10A)
20	SUNROOF (30A)
21	EMPTY
22	EMPTY
23	AIRBAG/INFO (10A /10A)
24	EMPTY
25	EMPTY
26	EXP PTO/SEO B1 (15A /15A)
27	USB/OBS DET (15A /15A)
28	BCM 2 (10A)
29	EMPTY
30	EMPTY
31	EMPTY
32	SEO B2 (30A)
33	EMPTY
34	EMPTY
35	AC INV (25A)
36	AMP (15A)
37	SPARE (10A)
38	EMPTY
39	RR SLD WNDW (30A)
40	EMPTY
41	EMPTY
42	RT DR WNDW MTR (30A)
43	FRT BLWR (40A)
44	SEO (15A)
45	BCM 6 (15A)
46	BCM 7 (15A)
47	PASS SEAT (30A)
48	EMPTY
49	EMPTY
50	RAP/ACCY
51	RR SLD WNDW OPN
52	RR SLD WNDW CL

X51R Fuse Block - Instrument Panel Right Top View



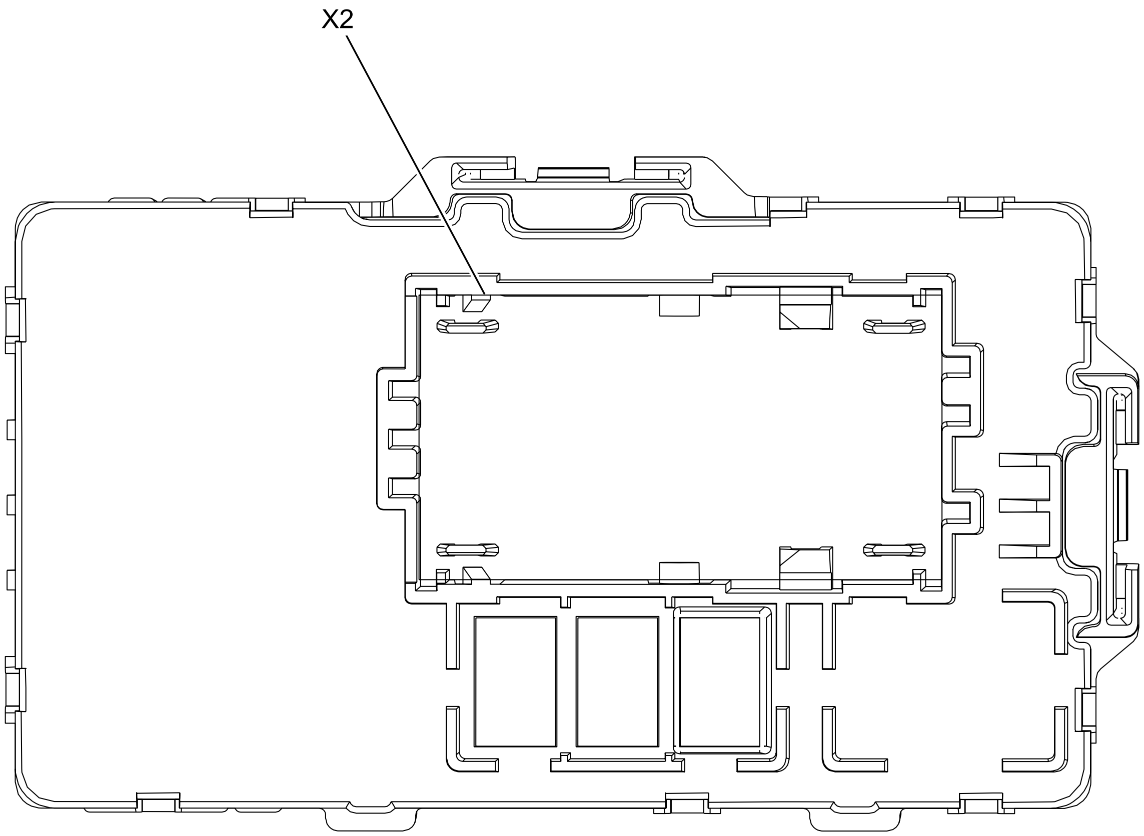
X51R Fuse Block – Instrument Panel Right Label Usage (Fuses)

No.	Device Label Name	Device Assigned Name	Rating	Description
1	APO 3	F1DR	15A	X80D Accessory Power Receptacle-Center Seat Bin (D07), X80E Accessory Power Receptacle-Center Seat (except D07)
2	APO 4	F2DR	15A	X80L Accessory Power Receptacle − Center Console Rear (D07),X80D Accessory Power Receptacle − Center Console Compartment (except D07)
3	EMPTY	—	—	Not Used
4	EMPTY	—	—	Not Used
5	EMPTY	—	—	Not Used
6	EMPTY	—	—	Not Used
7	BCM 4	F7DR	20A	K9 Body Control Module
8	BCM 8	F8DR	20A	K9 Body Control Module

9	RSE	F9DR	10A	P22A Video Display-2nd Row (U42)
10	CARGO LAMP	F10DR	15A	E6 Center High Mounted Stop Lamp,E33L Cargo Lamp − Left (except E29),E33R Cargo Lamp − Right (except E29),E70D Outside Rearview Mirror Cargo Lamp − Driver (DPN/DQS),E70P Outside Rearview Mirror Cargo Lamp − Passenger (DPN/DQS)
11	EMPTY	F11DR	—	Not Used
12	EMPTY	F12DR	—	Not Used
14	EMPTY	F14DR	—	Not Used
15	STR WHL CNTRL	F15DR	2A	S70L Steering Wheel Controls-Left, S70R Steering Wheel Controls Switch-Right
16	EMPTY	F16DR	—	Not Used
17	EMPTY	F17DR	—	Not Used
18	RDO	F18DR	20A	A11 Radio, A33 Media Disc Player (TG5/U42), K74 Human Machine Interface Control (IO4/IO5/IO6), X82 Audio/Video Input Adapter (U42),X83 Auxiliary Audio Input, X92 USB Receptacle (D07)
19	SPARE	F19DR	10A	Not Used
20	SUNROOF	F20DR	30A	M69 Sunroof Motor (CF5),KR58 Roof Beacon Relay (TRW)
21	EMPTY	F21DR	—	Not Used
22	EMPTY	F22DR	—	Not Used
23	AIRBAG/INFO	F23DR	10A	K36 Inflatable Restraint Sensing and Diagnostic Module, K73 Telematics Communication Interface Control Module (UE1), K85 Passenger Presence Module
24	EMPTY	F24DR	—	Not Used
25	EMPTY	F25DR	—	Not Used
26	EXP PTO/SEO B1	F26DR	15A	X191 (PTO),K44 Power Take− Off Control Module (PTO)
27	USB/OBS DET	F27DR	15A	K41 Front and Rear Parking Assist Control Module, K109 Frontview Camera Module, X83 Auxiliary Audio Input
28	BCM 2	F28DR	10A	K9 Body Control Module
29	EMPTY	F29DR	—	Not Used
30	EMPTY	F30DR	—	Not Used
31	EMPTY	F31DR	—	Not Used
32	SEO B2	F32DR	30A	X61A Junction Block-Instrument Panel (except E29)
33	EMPTY	F33DR	—	Not Used
34	EMPTY	F34DR	—	Not Used
35	AC INV	F35DR	25A	T1 Accessory DC/AC Power Inverter Module (KI4/KI5)
36	AMP	F36DR	30A	T3 Audio Amplifier (UQA/UQG)

36	AMP	F36DR	30A	T3 Audio Amplifier (UQA/UQG)
37	SPARE	F37DR	10A	Not Used
38	EMPTY	F38DR	—	Not Used
39	RR SLD WNDW	F39DR	30A	KR8A Sliding Rear Window Close relay, KR8B Sliding Rear Window Open Relay
40	EMPTY	F40DR	—	Not Used
41	EMPTY	F41DR	—	Not Used
42	RT DR WNDW MTR	F42DR	30A	S79P Window Switch-Passenger (A31), S79RR window Switch-Right Rear (Crew Cab/Extended Cab)
43	FRT BLWR	F43DR	40A	M8 Blower Motor
44	SEO	F44DR	15A	Not Used
45	BCM 6	F45DR	15A	K9 Body Control Module
46	BCM 7	F46DR	15A	K9 Body Control Module
47	PASS SEAT	F47DR	30A	S64P Seat Adjuster Switch-Passenger (A95/AN3/B3F)

X51R Fuse Block - Instrument Panel Right Bottom View

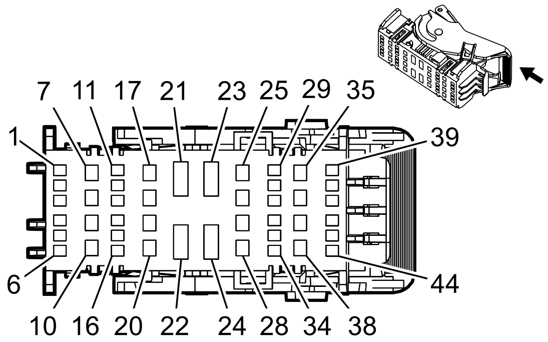


X51R Fuse Block – Instrument Panel Right Label Usage (Relays)

No.	Device Label Name	Device Assigned Name	Rating	Description
48	EMPTY	—	—	Not Used
49	EMPTY	—	—	Not Used
50	RAP/ACCY	KR76B Retained Accessory Power Relay 2	—	F1DR, F12DR
51	RR SLD WNDW OPN	KR8B Sliding Rear Window Open Relay	—	M63 Sliding Rear Window Motor
52	RR SLD WNDW CL	KR8A Sliding Rear Window Close Relay	—	M63 Sliding Rear Window Motor
Note: Relays listed below are non-serviceable Printed Circuit Board (PCB) relays and are internal to the block.				
—	—	KR112 Cargo Lamp Relay	—	F9DR
—	—	KR113 Child Security	—	A23LR Door Latch Assembly-Left Rear, A23RR Door Latch

—	—	KR113 Child Security Lock Disable Relay	—	A23LR Door Latch Assembly-Left Rear, A23RR Door Latch Assembly-Right Rear
—	—	KR114 Door Dead Lock Relay	—	A23D Door Latch Assembly-Driver, A23 LR Door Latch Assembly-Left Rear, A23P Door Latch Assembly-Passenger, A23RR Door Latch Assembly-Right Rear

X51R Fuse Block - Instrument Panel Right X1



Connector Part Information

Harness Type: Body

OEM Connector: 13967689

Service Connector: 19329457

Description: 44-Way F 1.5, 2.8, 800 Metri-Pack Series (NA)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575718	J-35616-44 (YE)	J-38125-558	12110127	2	F	G
II	13575718	J-35616-44 (YE)	J-38125-558	Not Available	Not Available	Not Available	Not Available
III	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
IV	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

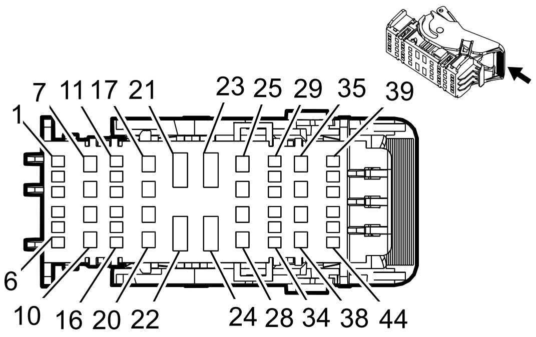
X51R Fuse Block - Instrument Panel Right X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY	295	Door Lock Actuator Lock Control	IV	—
	1.5	GY	295			—
2	1.5	WH/D-BU	3266	Child Security Lock Motor Lock Control	IV	—
3	0.35	VT/YE	3267	Child Security Lock Relay Control	IV	—
4	1.5	GY/L-GN	3271	Door Lock Control (2)	IV	—
5	—	—	—	Not Occupied	—	—
6	0.35	GY/VT	755	RAP Relay Coil Control	IV	—

7 - 8	—	—	—	Not Occupied	—	—
9	2.5	GY/L-GN	5441	Endgate Window Regulator Down Signal	III	—
10	2.5	YE/D-BU	5442	Endgate Window Regulator Up Signal	III	—
11	—	—	—	Not Occupied	—	—
12	0.75	RD/D-BU	4540	Battery Positive Voltage	IV	—
13	0.75	RD/VT	2640	Battery Positive Voltage	IV	—
14	—	—	—	Not Occupied	—	—
15	0.5	VT/GY	709	Left Park Lamp Control	IV	—
16	0.35	RD/L-GN	4440	Battery Positive Voltage	IV	—
	0.5	RD/L-GN	4440			—
17	—	—	—	Not Occupied	—	—
18	1.5	VT/YE	143	Accessory Ignition Voltage	III	—
19	2.5	RD/WH	1340	Battery Positive Voltage	III	—
20	2.5	RD/WH	1340	Battery Positive Voltage	III	—
21	6	RD/L-GN	242	Battery Positive Voltage	II	—
22	4	RD/VT	542	Battery Positive Voltage	I	—
23	—	—	—	Not Occupied	—	—
24	6	RD/GY	142	Battery Positive Voltage	II	—
25 - 26	—	—	—	Not Occupied	—	—

27	0.75	RD/VT	340	Battery Positive Voltage	III	—
28	—	—	—	Not Occupied	—	—
29	1.5	D-BU/WH	195	Door Lock Control	IV	—
30 - 32	—	—	—	Not Occupied	—	—
33	0.75	RD/WH	3440	Battery Positive Voltage	IV	—
34	0.75	RD/L-GN	5140	Battery Positive Voltage	IV	—
35 - 36	—	—	—	Not Occupied	—	—
37	2.5	RD/YE	3740	Battery Positive Voltage	III	—
38	2.5	RD/BN	1440	Battery Positive Voltage	III	—
39	—	—	—	Not Occupied	—	—
40	0.75	GY	5911	Door Lock Actuator Lock Control 2	IV	—
41 - 42	—	—	—	Not Occupied	—	—
43	0.75	RD/L-GN	3140	Battery Positive Voltage	IV	—
44	0.5	RD/BN	2940	Battery Positive Voltage	IV	—

X51R Fuse Block - Instrument Panel Right X2



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13967690

Service Connector: 19329458

Description: 44-Way F 1.5, 2.8, 800 Metri-Pack Series (GN)

Terminal Part Information

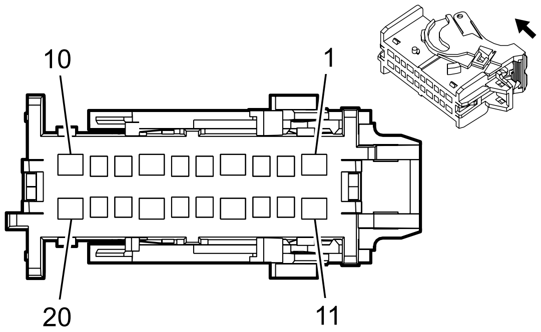
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575718	J-35616-44 (YE)	J-38125-558	12110127	2	F	G
II	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X51R Fuse Block - Instrument Panel Right X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/L-GN	1540	Battery Positive Voltage	III	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.5	BN/WH	1429	Standing Lamp Relay Control	III	—
5	0.5	BK	1050	Ground	III	—
6	—	—	—	Not Occupied	—	—
7	0.75	RD/VT	4040	Battery Positive Voltage	II	—
8	0.75	RD/D-BU	2540	Battery Positive Voltage	II	—
9	—	—	—	Not Occupied	—	—

10	1.5	VT/YE	243	Accessory Ignition Voltage	II	—
11	0.75	WH/VT	1430	Exterior Courtesy Lamp Control	III	—
12 - 15	—	—	—	Not Occupied	—	—
16	0.35	RD/YE	3040	Battery Positive Voltage	III	—
17	0.75 1	RD/VT RD/VT	340 340	Battery Positive Voltage	II	— —
18 - 21	—	—	—	Not Occupied	—	—
22	2.5	BK	1050	Ground	I	—
23 - 28	—	—	—	Not Occupied	—	—
29	0.5	RD/BN	2240	Battery Positive Voltage	III	—
30 - 31	—	—	—	Not Occupied	—	—
32	0.35	YE/VT	6191	Power Sliding Window Switch Open Signal	III	—
33	0.35	WH	6192	Power Sliding Window Switch Close Signal	III	—
34	0.35	RD/D-BU	3240	Battery Positive Voltage	III	—
35	2.5	RD/GY	4140	Battery Positive Voltage	II	—
36 - 37	—	—	—	Not Occupied	—	—
38	1.5	RD/YE	2340	Battery Positive Voltage	II	—
39 - 41	—	—	—	Not Occupied	—	—
42	0.75	RD/VT	340	Battery Positive Voltage	III	—
43 - 44	—	—	—	Not Occupied	—	—

X51R Fuse Block - Instrument Panel Right X3



Connector Part Information

Harness Type: Right A-Pillar

OEM Connector: 15547107

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F 1.5, 2.8 OCS Series (GY)

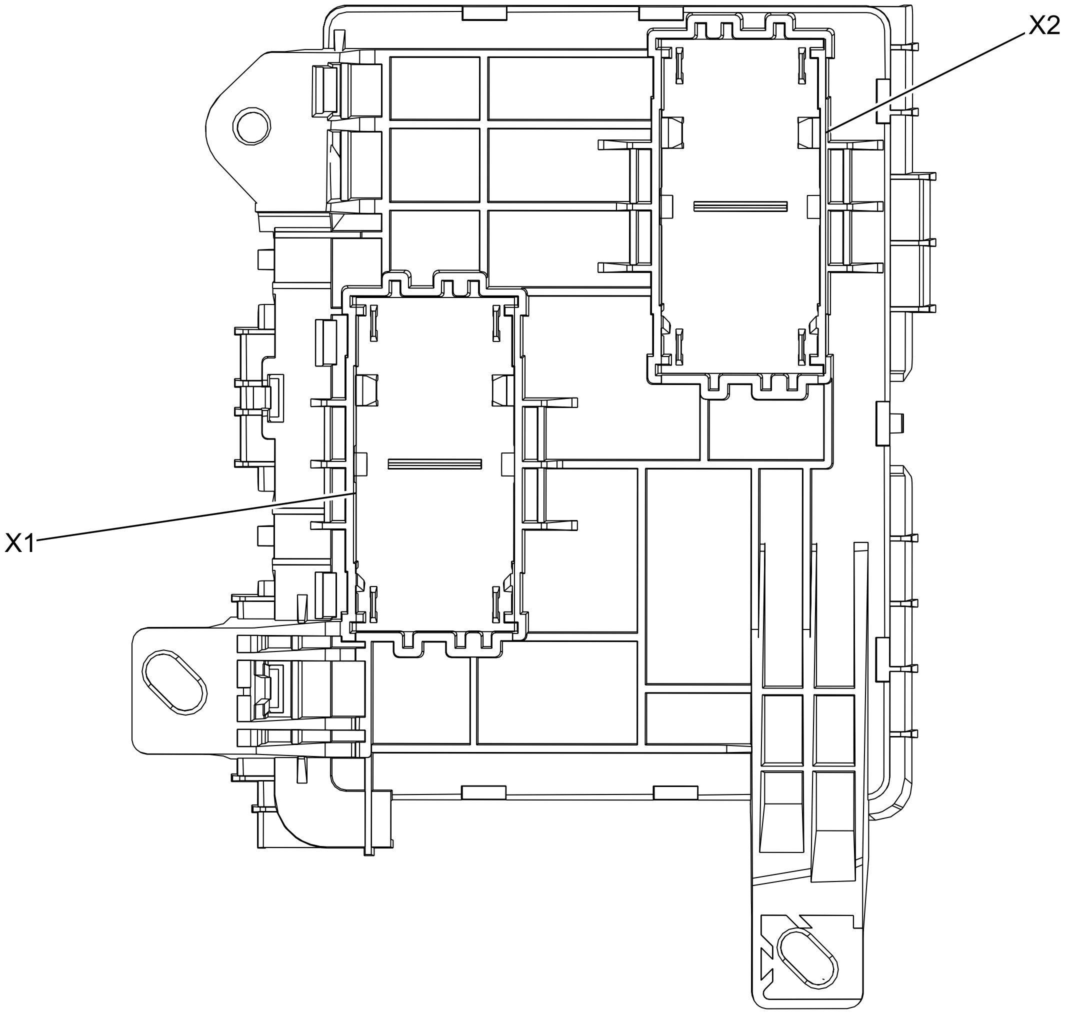
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

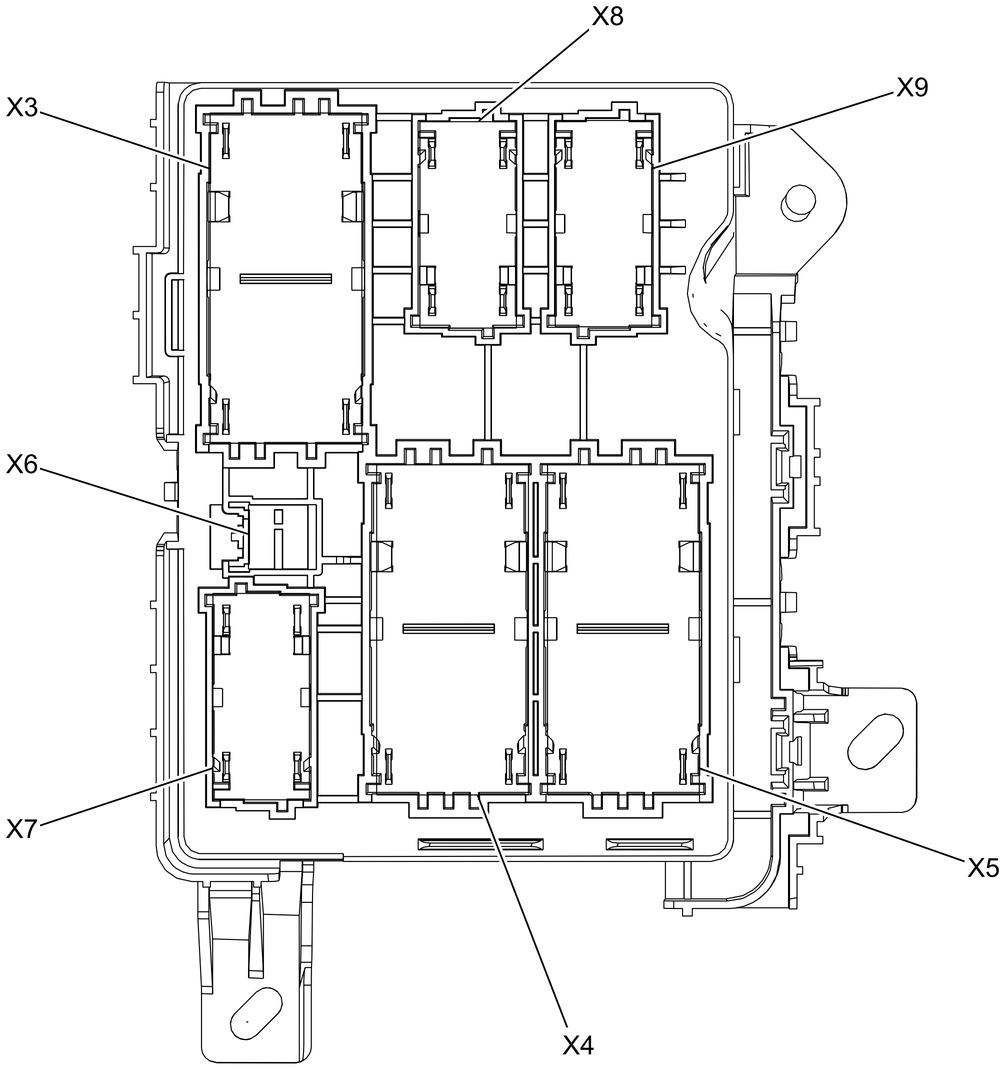
X51R Fuse Block - Instrument Panel Right X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	RD/L-GN	3140	Battery Positive Voltage	II	—
2 - 7	—	—	—	Not Occupied	—	—
8	0.5	VT/GY	709	Left Park Lamp Control	I	—
9	—	—	—	Not Occupied	—	—
10	0.5 2.5	BK BK	1050 1050	Ground	II	— —
11 - 20	—	—	—	Not Occupied	—	—

X61A Junction Block - Instrument Panel Top View



X61A Junction Block - Instrument Panel Bottom View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X9
X3
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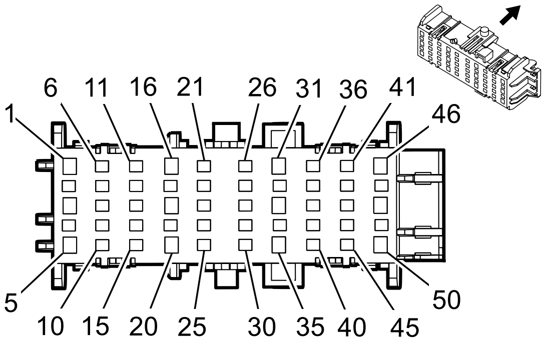
X5
X4

X61A Junction Block - Instrument Panel X1



Connector Part Information

Harness Type: Body

OEM Connector: 33114819

Service Connector: 19301798

Description: 50-Way F 1.5, 2.8 OCS Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
II	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

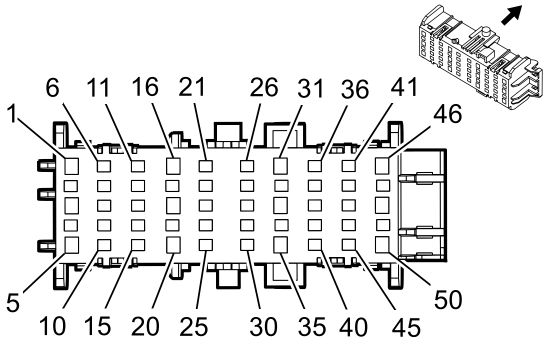
X61A Junction Block - Instrument Panel X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	GY/BK	1570	Front Axle Actuator Control	II	—
3 - 10	—	—	—	Not Occupied	—	—
11	0.35	GY/L-GN	2555	Rear Park Assist Disable Signal	II	—
12 - 15	—	—	—	Not Occupied	—	—
16	2.5	D-BU	965	—	I	—
17	0.75	WH/VT	1430	Exterior Courtesy Lamp Control	II	—
18	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	I	—
19	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	II	—

20	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	I	—
21	0.5	RD/WH	961	—	II	—
22	0.35	VT	185	Low Washer Fluid Indicator Control	II	—
23	0.35	BN/YE	780	Driver Door Lock Switch Lock Signal	II	—
24	0.5	BN	7634	Integrated Trailer Brake Controller Redundant Manual Apply Signal	II	—
25	0.35	GY	5697	Child Lockout Indicator Control	II	—
26	0.5	D-BU/RD	7632	Integrated Trailer Brake Controller Switch 5 Volt Reference	II	—
27	0.5	BK/BN	7631	Integrated Trailer Brake Controller Switch Low Reference	II	—
28	0.35	BN/WH	781	Driver Door Lock Switch Unlock Signal	II	—
29	0.5	YE	7635	Integrated Trailer Brake Controller Manual Apply Signal	II	—
30	0.5	L-GN/GY	963	—	II	—
31	2.5	GY/BK	966	—	I	—
32	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	II	—
33	0.5	VT/BN	300	Run Ignition 3 Voltage	I	—
34	0.5	YE/WH	962	—	II	—
35	2.5	YE/BN	967	—	I	—

36	0.35	WH/GY	5285	Adjustable Pedal Switch Rearward Signal	II	—
37	—	—	—	Not Occupied	—	—
38	0.5	WH/D-BU	964	—	II	—
39	1	D-BU/VT	1134	Park Brake Switch Signal	II	—
40	0.5	L-GN	5060	Low Speed GMLAN Serial Data	II	—
41	0.5	L-GN/BK	7633	Integrated Trailer Brake Controller User Gain Signal	II	—
42	0.35	L-GN/GY	5286	Adjustable Pedal Switch Forward Signal	II	—
43	—	—	—	Not Occupied	—	—
44	0.5	WH/D-BU	3691	Trailer Brake Apply Signal	II	—
45	0.35	L-GN/BN	5852	Rear Park Assist LED Disable Signal	II	—
46	0.5	VT/WH	1939	Run/Crank Ignition 1 Voltage	I	—
47	0.5	WH	6816	Indicator Dimming Control	II	—
48	2.5	RD/L-GN	968	—	I	—
49	0.5	YE/WH	816	Brake Transmission Shift Interlock Solenoid Control	II	—
50	2.5	BK	2550	Ground	I	—

X61A Junction Block - Instrument Panel X2



Connector Part Information

Harness Type: Body

OEM Connector: 33115109

Service Connector: 19329464

Description: 50-Way F 1.5, 2.8 OCS Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575543	J-35616-35 (VT)	J-38125-12A	1326030-8	13	B	F
II	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X61A Junction Block - Instrument Panel X2

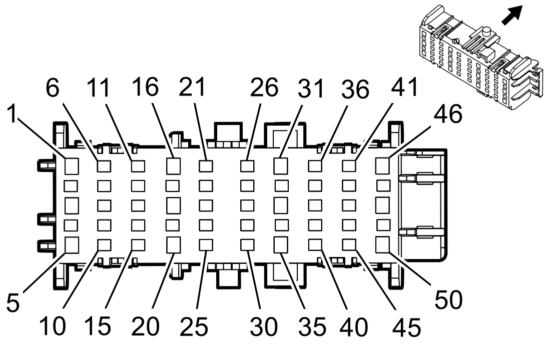
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	4	RD/GY	1342	Battery Positive Voltage	I	—
4	0.35	D-BU	2307	Passenger Air Bag On Indicator Control	III	—
5	0.5	RD/L-GN	3140	Battery Positive Voltage	II	—
6	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	III	—
7	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	III	—
8	0.35	WH/RD	6207	Memory Sensor High Reference	III	—

9	0.35	BK/YE	1691	Automatic Day/Night Mirror Low Reference	III	—
10	0.35	YE/WH	1690	Automatic Day/Night Mirror Signal	III	—
11	0.35	D-BU	5952	Adjustable Pedal Position Sensor Brake Signal	III	—
12	0.75	YE	5129	Adjustable Pedal Actuator Rearward Control	III	—
	1.5	YE	5129			—
13 - 14	—	—	—	Not Occupied	—	—
15	0.5	L-GN/WH	24	Backup Lamp Control	III	—
16	2.5	YE/BN	1569	Transfer Case Lock Solenoid Control	II	—
17	—	—	—	Not Occupied	—	—
18	4	BK	550	Ground	I	—
19	0.35	VT/WH	5234	Passenger Seat Belt Indicator Control	III	—
20	—	—	—	Not Occupied	—	—
21	0.75	L-GN/VT	5130	Adjustable Pedal Actuator Forward Control	III	—
	1.5	L-GN/VT	5130			—
22	0.35	BK/GY	6206	Memory Sensor Low Reference	III	—
23	0.5	WH/BN	6815	Inadvertent Power Control	III	—
24	0.35	L-GN	2308	Passenger Air Bag Off Indicator Control	III	—
25	—	—	—	Not Occupied	—	—
26	0.35	D-BU/GY	7473	Incremental Encoder Impulse Signal	III	—

27	0.35	VT	7476	Incremental Encoder Sensor Low Reference	III	—
28	—	—	—	Not Occupied	—	—
29	0.5	GY	157	Interior Lamp Control	III	—
30	0.35	GY	156	Courtesy Lamp Switch Signal	III	—
31	4	YE/VT	1553	Transfer Case Motor Counter Clockwise Control	I	—
32	0.35	YE	7474	Incremental Encoder Direction Signal	III	—
33	0.5	VT/GY	1054	Stop Lamp Control	II	—
34	—	—	—	Not Occupied	—	—
35	2.5	RD/L-GN	242	Battery Positive Voltage	II	—
36	0.35	WH/L-GN	7475	Incremental Encoder Sensor 8 Volt Reference	III	—
37	0.5	YE/WH	1695	Four Wheel Drive Wheel Lock Indicator Control	III	—
38	0.35	VT/YE	5985	Accessory Wakeup Serial Data	III	—
39 - 43	—	—	—	Not Occupied	—	—
44	0.5	WH/D-BU	3691	Trailer Brake Apply Signal	III	—
45	—	—	—	Not Occupied	—	—
46	4	YE/GY	1552	Transfer Case Motor Clockwise Control	I	—
47	0.5	L-GN/GY	817	Vehicle Speed Signal	III	—
48	2.5	D-BU	47	Trailer Auxiliary Control	II	—

49	—	—	—	Not Occupied	—	—
50	0.35	VT/YE	43	Accessory Ignition Voltage	II	—

X61A Junction Block - Instrument Panel X3



Connector Part Information

Harness Type: Headliner

OEM Connector: 33115112

Service Connector: 19329467

Description: 50-Way F 1.5, 2.8 OCS Series (BU)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578891	J-35616-2A (GY)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
II	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

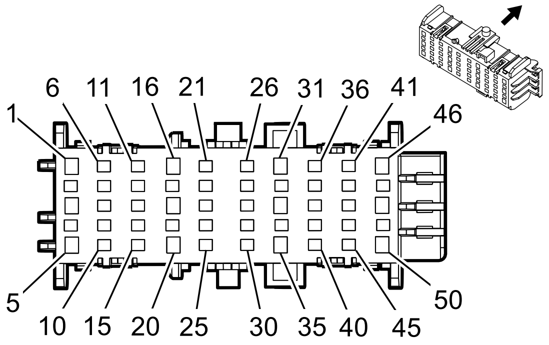
X61A Junction Block - Instrument Panel X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.35	RD/L-GN	3140	Battery Positive Voltage	II	—
	0.5	RD/L-GN	3140			—
4	0.35	D-BU	2307	Passenger Air Bag On Indicator Control	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	0.75	WH/VT	1430	Exterior Courtesy Lamp Control	III	—
8	0.35	YE/WH	1690	Automatic Day/Night Mirror Signal	III	—
9	0.35	BK/YE	1691	Automatic Day/Night Mirror Low Reference	III	—

10 - 12	—	—	—	Not Occupied	—	—
13	0.35	L-GN/RD	24	Backup Lamp Control	III	—
	0.5	L-GN/RD	24			—
14 - 16	—	—	—	Not Occupied	—	—
17	0.35	L-GN/BK	2515	Keypad Control	III	—
18	—	—	—	Not Occupied	—	—
19	0.35	VT/WH	5234	Passenger Seat Belt Indicator Control	I	—
20	—	—	—	Not Occupied	—	—
21	0.35	L-GN/D-BU	2514	Keypad Signal	III	—
22	0.35	YE/BN	2516	Keypad Green LED Control	III	—
23	—	—	—	Not Occupied	—	—
24	0.35	L-GN/RD	2308	Passenger Air Bag Off Indicator Control	I	—
25	0.5	WH/BN	6815	Inadvertent Power Control	III	—
	0.5	WH/BN	6815		I	—
26	0.35	WH	6192	Power Sliding Window Switch Close Signal	I	—
27	0.5	YE	6817	LED Backlight Dimming Control	I	—
	0.5	YE	6817		III	—
28	0.35	GY/D-BU	156	Courtesy Lamp Switch Signal	I	—
29	0.5	GY	157	Interior Lamp Control	I	—

	0.5	GY	157		III	—
30 - 31	—	—	—	Not Occupied	—	—
32	0.35	YE/VT	6191	Power Sliding Window Switch Open Signal	I	—
33 - 34	—	—	—	Not Occupied	—	—
35	0.5	VT/GY	1054	Stop Lamp Control	II	—
36	0.35	BN/WH	2517	Keypad Red LED Control	III	—
37 - 40	—	—	—	Not Occupied	—	—
41	0.35	GY/L-GN	328	Interior Lamp Defeat Switch Signal	I	—
42	0.35	VT/L-GN	7558	LED Ambient Lighting Control 2	III	—
	0.35	VT/L-GN	7558		I	—
43 - 44	—	—	—	Not Occupied	—	—
45	0.35	GY/WH	3153	Lane Departure Warning Disable Switch Signal	III	—
46	2.5	BK	1050	Ground	II	—
47	0.35	L-GN	5060	Low Speed GMLAN Serial Data	III	—
48	—	—	—	Not Occupied	—	—
49	0.35	WH	3152	Lane Departure Warning Indicator Control	III	—
50	—	—	—	Not Occupied	—	—

X61A Junction Block - Instrument Panel X4



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 33115110

Service Connector: 19329465

Description: 50-Way F 1.5, 2.8 OCS Series (NA)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
II	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

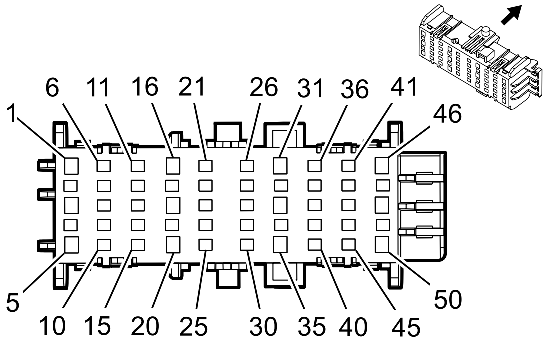
X61A Junction Block - Instrument Panel X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	I	—
2	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	II	—
3	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	I	—
4	0.75	WH/VT	1430	Exterior Courtesy Lamp Control	II	—
5	—	—	—	Not Occupied	—	—
6	0.35	GY	5697	Child Lockout Indicator Control	II	—
7	0.5	BN	7634	Integrated Trailer Brake Controller Redundant Manual Apply Signal	II	—
8	0.35	BN/YE	780	Driver Door Lock Switch Lock Signal	II	—

9	0.35	VT	185	Low Washer Fluid Indicator Control	II	—
10	0.5	RD/WH	961	—	II	—
11	0.5	L-GN/GY	963	—	II	—
12	0.5	YE	7635	Integrated Trailer Brake Controller Manual Apply Signal	II	—
13	0.35	BN/WH	781	Driver Door Lock Switch Unlock Signal	II	—
14	0.5	BK/BN	7631	Integrated Trailer Brake Controller Switch Low Reference	II	—
15	0.5	D-BU/RD	7632	Integrated Trailer Brake Controller Switch 5 Volt Reference	II	—
16	—	—	—	Not Occupied	—	—
17	0.5	YE/WH	962	—	II	—
18	0.5	VT/BN	300	Run Ignition 3 Voltage	I	—
19	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	II	—
20 - 21	—	—	—	Not Occupied	—	—
22	0.5	D-BU/VT	1134	Park Brake Switch Signal	II	—
23	0.5	WH/D-BU	964	—	II	—
24	—	—	—	Not Occupied	—	—
25	0.35	WH/GY	5285	Adjustable Pedal Switch Rearward Signal	II	—
26	0.35	L-GN/BN	5852	Rear Park Assist LED Disable Signal	II	—

27	0.5	WH/D-BU	3691	Trailer Brake Apply Signal	II	—
28	—	—	—	Not Occupied	—	—
29	0.35	L-GN/GY	5286	Adjustable Pedal Switch Forward Signal	II	—
30	0.5	L-GN/BK	7633	Integrated Trailer Brake Controller User Gain Signal	II	—
31	0.35	BK	2550	Ground	I	—
32	0.5	YE/WH	816	Brake Transmission Shift Interlock Solenoid Control	II	—
33	—	—	—	Not Occupied	—	—
34	0.5	WH	6816	Indicator Dimming Control	II	—
35 - 36	—	—	—	Not Occupied	—	—
37	0.35	WH	6816	Indicator Dimming Control	II	—
38	0.35	WH	6816	Indicator Dimming Control	II	—
39 - 44	—	—	—	Not Occupied	—	—
45	0.35	GY/L-GN	2555	Rear Park Assist Disable Signal	II	—
46 - 50	—	—	—	Not Occupied	—	—

X61A Junction Block - Instrument Panel X5



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 33115111

Service Connector: 19329466

Description: 50-Way F 1.5, 2.8 OCS Series (GN)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
II	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X61A Junction Block - Instrument Panel X5

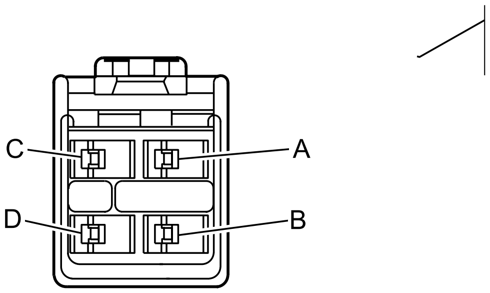
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	YE/VT	2516	Keypad Green LED Control	II	—
3	0.35	BK/L-GN	552	Sensor Low Reference	I	—
4	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
5	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
6	0.5	YE	6817	LED Backlight Dimming Control	II	—
7	0.35	L-GN/WH	2514	Keypad Signal	II	—
8	0.35	GY/RD	598	5 Volt Reference	II	—

9	0.35	WH/L-GN	526	Stop Lamp Switch Signal	II	—
10	0.35	D-BU/YE	1693	Four Wheel Drive Switch Signal	II	—
11	0.35	GY/WH	3153	Lane Departure Warning Disable Switch Signal	II	—
12	0.35	YE/VT	6191	Power Sliding Window Switch Open Signal	II	—
13	0.35	WH	6192	Power Sliding Window Switch Close Signal	II	—
14	0.35	BN	1560	Neutral Indicator Control	II	—
15	0.35	GY/RD	6029	Four Wheel Drive Mode Switch 5 Volt Reference	II	—
16	2.5	BK	1050	Ground	I	—
17 - 18	—	—	—	Not Occupied	—	—
19	0.35	L-GN/BK	2515	Keypad Control	II	—
20	—	—	—	Not Occupied	—	—
21	0.5	VT/L-GN	7558	LED Ambient Lighting Control 2	II	—
22	0.35	BN/WH	2517	Keypad Red LED Control	II	—
23	0.35	BN/BK	1566	4 HI Indicator Control	II	—
24	0.35	VT/WH	1565	4 LO Indicator Control	II	—
25	0.35	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	II	—
26	0.35	WH	3152	Lane Departure Warning Indicator Control	II	—

27	0.35	GY/L-GN	328	Interior Lamp Defeat Switch Signal	II	—
28 - 29	—	—	—	Not Occupied	—	—
30	0.35	GY/L-GN	1561	AWD Indicator Control	II	—
31	1.5	RD/YE	2340	Battery Positive Voltage	I	—
32	0.5	BK/WH	1851	Signal Ground	II	—
33	0.35	BK/WH	1851	Signal Ground	I	—
	0.75	BK/WH	1851			—
34	—	—	—	Not Occupied	—	—
35	2.5	BK/WH	1851	Signal Ground	I	—
36 - 37	—	—	—	Not Occupied	—	—
38	0.5	BK/WH	1851	Signal Ground	II	—
39	—	—	—	Not Occupied	—	—
40	0.35	L-GN/BK	1563	2 HI Indicator Control	II	—
41	0.35	BK/WH	1851	Signal Ground	II	—
42 - 43	—	—	—	Not Occupied	—	—
44	0.35	BK	2550	Ground	II	—
45	0.35	BK	2550	Ground	II	—
46	0.75	BK	2550	Ground	I	—

47	0.35	BK	2550	Ground	II	—
48	0.5	BK	2550	Ground	I	—
	0.75	BK	2550			—
49	0.35	BK	2550	Ground	II	—
50	0.75	BK	2550	Ground	I	—

X61A Junction Block - Instrument Panel X6



Connector Part Information

Harness Type: Trailer Brake

OEM Connector: 12194033

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 280 Metri-Pack Series, Flexlock (CR)

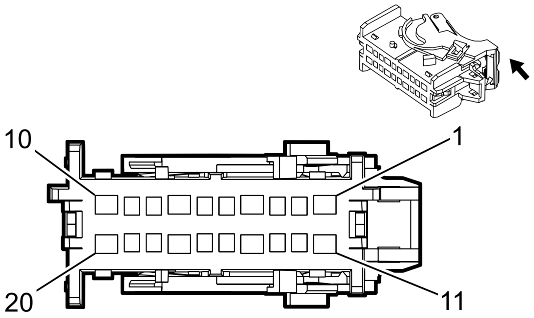
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X61A Junction Block - Instrument Panel X6

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BK	1050	Ground	I	—
B	0.5	WH/D-BU	3691	Trailer Brake Apply Signal	I	—
C	2.5	RD/L-GN	242	Battery Positive Voltage	I	—
D	2.5	D-BU	47	Trailer Auxiliary Control	I	—

X61A Junction Block - Instrument Panel X8



Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 15547106

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F 1.5, 2.8 OCS Series (BK)

Terminal Part Information

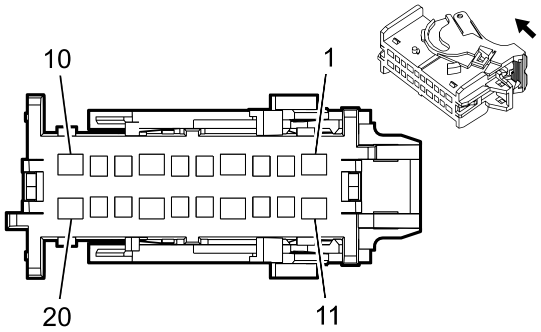
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

X61A Junction Block - Instrument Panel X8

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 7	—	—	—	Not Occupied	—	—
8	0.5	WH/L-GN	526	Stop Lamp Switch Signal	I	—
9	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
10	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
11	—	—	—	Not Occupied	—	—
12	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
13	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
14	0.5	WH/RD	6207	Memory Sensor High Reference	II	—

15	0.5	D-BU	5952	Adjustable Pedal Position Sensor Brake Signal	I	—
16	1.5	YE	5129	Adjustable Pedal Actuator Rearward Control	I	—
17	0.5	BK/GY	6206	Memory Sensor Low Reference	II	—
18	1.5	L-GN/VT	5130	Adjustable Pedal Actuator Forward Control	I	—
19	0.5	BK/L-GN	552	Sensor Low Reference	I	—
20	0.5	GY/RD	598	5 Volt Reference	II	—

X61A Junction Block - Instrument Panel X9



Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 15547107

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F 1.5, 2.8 OCS Series (GY)

Terminal Part Information

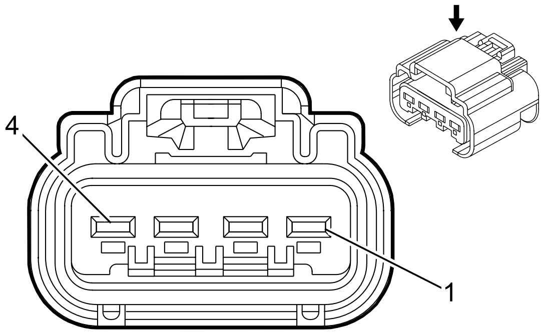
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

X61A Junction Block - Instrument Panel X9

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	YE/BN	1569	Transfer Case Lock Solenoid Control	II	—
2	0.35	D-BU/YE	1693	Four Wheel Drive Switch Signal	I	—
3	0.35	GY/RD	6029	Four Wheel Drive Mode Switch 5 Volt Reference	I	—
4	0.35	BN/BK	1566	4 HI Indicator Control	II	—
5	0.35	VT/WH	1565	4 LO Indicator Control	I	—
6	0.35	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	I	—
7	0.35	VT/YE	5985	Accessory Wakeup Serial Data	II	—

8	0.35	L-GN/BK	1563	2 HI Indicator Control	I	—
9	0.35	GY/L-GN	1561	AWD Indicator Control	I	—
10	0.5	GY/BK	1570	Front Axle Actuator Control	II	—
11	3	RD/GY	1342	Battery Positive Voltage	II	—
12	0.35	BN	1560	Neutral Indicator Control	I	—
13	0.35	VT	7476	Incremental Encoder Sensor Low Reference	I	—
14	3	BK	550	Ground	II	—
15	0.35	D-BU/GY	7473	Incremental Encoder Impulse Signal	I	—
16	0.35	YE	7474	Incremental Encoder Direction Signal	I	—
17	4	YE/VT	1553	Transfer Case Motor Counter Clockwise Control	II	—
18	0.35	WH/L-GN	7475	Incremental Encoder Sensor 8 Volt Reference	I	—
19	0.5	YE/WH	1695	Four Wheel Drive Wheel Lock Indicator Control	I	—
20	4	YE/GY	1552	Transfer Case Motor Clockwise Control	II	—

A6C Fuel Pump and Level Sensor Assembly – Primary (2500 or 3500)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13527865

Service Connector: 88988992

Description: 4-Way F 280 GT Series, Sealed (NA)

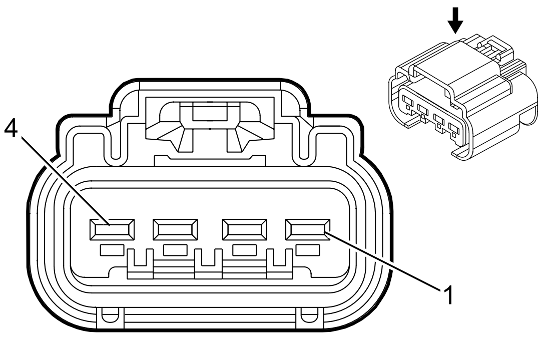
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-4A (PU)	Not Available	Not Available	Not Available	Not Available	Not Available

A6C Fuel Pump and Level Sensor Assembly – Primary (2500 or 3500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GY	120	Fuel Pump Supply Voltage	I	without LML
2	4	BK	2150	Ground	I	without LML
3	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	I	-
4	0.5	D-BU/VT	1589	Primary Fuel Level Sensor Signal	I	-

A6D Fuel Pump and Level Sensor Assembly - Secondary



Connector Part Information

Harness Type: Chassis

OEM Connector: 13527865

Service Connector: 13587174

Description: 4-Way F 280 GT Series, Sealed (NA)

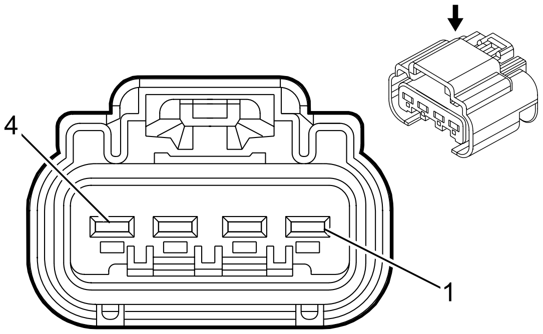
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

A6D Fuel Pump and Level Sensor Assembly - Secondary

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	GY	120	Fuel Pump Control	I	—
	2.5	GY	120			—
2	4	BK	2150	Ground	I	—
3	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	I	—
4	0.5	D-BU/VT	1589	Primary Fuel Level Sensor Signal	I	—
	0.5	D-BU/WH	1937	Secondary Fuel Level Sensor Signal		—

A7 Fuel Pump and Level Sensor Assembly



Connector Part Information

Harness Type: Chassis

OEM Connector: 13527865

Service Connector: 13587174

Description: 4-Way F 280 GT Series, Sealed (NA)

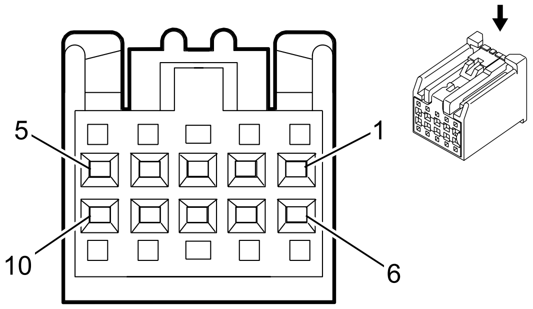
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

A7 Fuel Pump and Level Sensor Assembly

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	GY	120	Fuel Pump Control	I	—
	2.5	GY	120			—
2	1.5	BK	2150	Ground	I	—
	2.5	BK/L-GN	1580	Fuel Pump Low Reference		—
3	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	I	—
4	0.5	D-BU/VT	1589	Primary Fuel Level Sensor Signal	I	—

A10 Inside Rearview Mirror



Connector Part Information

Harness Type: Headliner

OEM Connector: 13815336

Service Connector: 13577390

Description: 10-Way F 0.64 Kaizen Series (BK)

Terminal Part Information

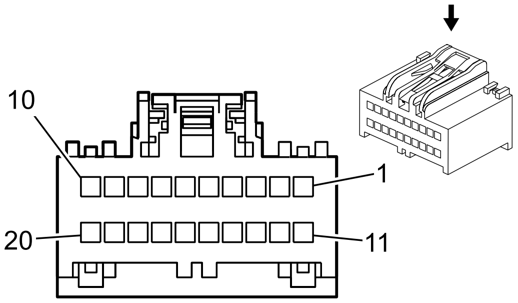
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

A10 Inside Rearview Mirror

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/RD	24	Backup Lamp Control	I	—
	0.5	L-GN/RD	24			—
2	0.35	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	I	—
3	0.35	L-GN/D-BU	2514	Keypad Signal	I	—
4	0.35	L-GN/BK	2515	Keypad Control	I	—
5	0.5	BK	1050	Ground	I	—
6	0.35	YE/BN	2516	Keypad Green LED Control	I	—
7	0.35	BN/WH	2517	Keypad Red LED Control	I	—

8	0.35	BK/YE	1691	Automatic Day/Night Mirror Low Reference	I	—
9	0.35	YE/WH	1690	Automatic Day/Night Mirror Signal	I	—
10	—	—	—	Not Occupied	—	—

A11 Radio X1 (IOB)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13859758

Service Connector: 15126710

Description: 20-Way F USCAR 64 Series (GY)

Terminal Part Information

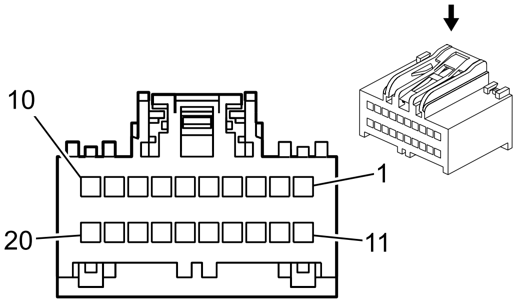
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

A11 Radio X1 (IOB)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	2550	Ground	I	—
2	0.35	GY/BN	9003	—	I	—
3	0.35	BN	9004	—	I	—
4	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	BK/GY	5152	Voice Recognition Audio Low Reference	I	—
	0.35	BK/BN	654	Cellular Telephone Microphone Low Reference		—
7	0.35	GY/YE	5149	Voice Recognition Audio Signal	I	—
	0.35	D-BU	655	Cellular Telephone Microphone Signal		—

8	0.35	BN/L-GN	3983	Display Radio Bank Switch Signal 2	I	—
9	0.35	BK/YE	659	Cellular Telephone Voice Low Reference	I	—
10	0.35	YE	658	Cellular Telephone Voice Signal	I	—
11	0.75	RD/VT	340	Battery Positive Voltage	I	—
12 - 13	—	—	—	Not Occupied	—	—
14	0.35	WH/D-BU	6973	Camera Signal 2	I	—
15	0.35	GY/YE	6972	Camera Signal 2 +	I	—
16	0.5	BARE	5842	Auxiliary Audio Screen (2)	I	—
17	0.35	D-BU	2060	Auxiliary Detection Signal	I	—
18	0.35	VT	5843	Auxiliary Audio Common Signal	I	—
19	0.35	GY	5839	Left Auxiliary Audio Signal (2)	I	—
20	0.35	L-GN	5841	Right Auxiliary Audio Signal (2)	I	—

A11 Radio X1 (-IOB)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15491304

Service Connector: 15126710

Description: 20-Way F USCAR 64 Series (GY)

Terminal Part Information

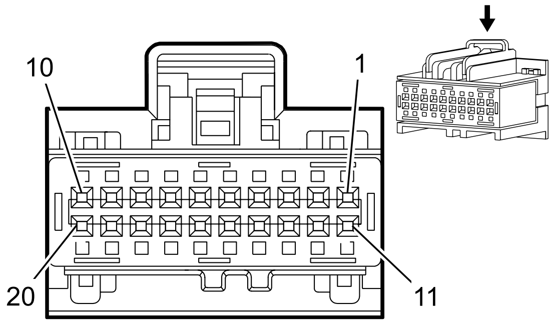
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

A11 Radio X1 (-IOB)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 3	—	—	—	Not Occupied	—	—
4	0.35	WH/D-BU	6973	Camera Signal 2	I	—
5	0.35	GY/YE	6972	Camera Signal 2 +	I	—
6	0.5	BARE	5842	Auxiliary Audio Screen (2)	I	—
7	0.35	D-BU	2060	Auxiliary Detection Signal	I	—
8	0.35	VT	5843	Auxiliary Audio Common Signal	I	—
9	0.35	GY	5839	Left Auxiliary Audio Signal (2)	I	—
10	0.35	L-GN	5841	Right Auxiliary Audio Signal (2)	I	—
11 - 12	—	—	—	Not Occupied	—	—

11 - 12	—	—	—	Not Occupied	—	—
13	0.5	L-GN/D-BU	7532	Local Interconnect Network Serial Data Bus 10	I	—
14	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
15 - 18	—	—	—	Not Occupied	—	—
19	0.35	BK/YE	659	Cellular Telephone Voice Low Reference	I	—
20	0.35	YE	658	Cellular Telephone Voice Signal	I	—

A11 Radio X2 (IOB)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13950640

Service Connector: 15126709

Description: 20-Way F USCAR 64 Series (BN)

Terminal Part Information

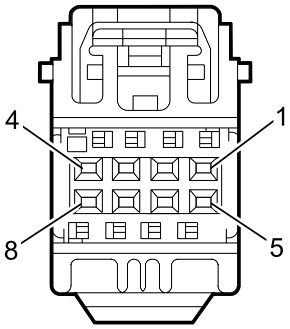
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

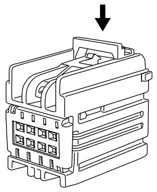
A11 Radio X2 (IOB)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.35	GY	314	Radio On Signal	I	—
4	0.35	VT/GY	1381	LCD Dimming Signal	I	—
5	0.35	GY/D-BU	3989	Display Radio Bank Switch Dim Signal	I	—
6	0.35	BN/L-GN	4502	Video Display Request Signal	I	—
7	0.35	BN/L-GN	3364	Navigation Display Reset Signal	I	—
8	0.35	D-BU	4315	Radio Volume Up Signal	I	—
9	0.35	GY/BN	4314	Radio Volume Down Signal	I	—

10	0.75	BK	2550	Ground	I	—
11	0.5	WH	46	Right Rear Speaker Control (+)	I	—
12	0.5	D-BU/BK	115	Right Rear Speaker Signal (-)	I	—
13	0.5	L-GN	199	Left Rear Speaker Control (+)	I	—
14	0.5	L-GN/BK	116	Left Rear Speaker Signal (-)	I	—
15	0.75	YE/BK	117	Right Front Speaker Signal (-) (1)	I	—
16	0.75	YE	200	Right Front Speaker Control (+) (1)	I	—
17	0.75	BN/D-BU	118	Left Front Speaker Signal (-) (1)	I	—
18	0.75	D-BU	201	Left Front Speaker Control (+) (1)	I	—
19	—	—	—	Not Occupied	—	—
20	0.75	RD/VT	340	Battery Positive Voltage	I	—

A11 Radio X2 (-IOB)





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13551679

Service Connector: 19115653

Description: 8-Way F YESC Kaizen Series (L-GY)

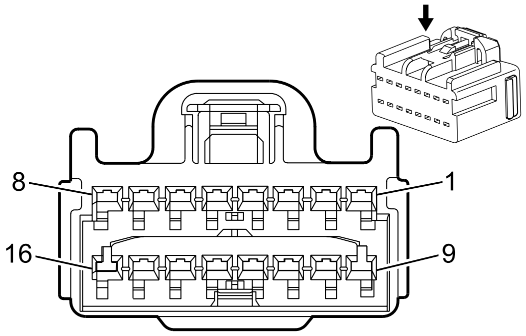
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

A11 Radio X2 (-IOB)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	WH/L-GN	3997	MOST Serial Data (-)	I	—
4	0.5	GY/VT	3998	MOST Serial Data (+)	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	0.35	WH/VT	3999	MOST Control	I	—
8	—	—	—	Not Occupied	—	—

A11 Radio X3



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 10847013

Service Connector: 89047090

Description: 16-Way F 1.5 Kaizen Series (GN)

Terminal Part Information

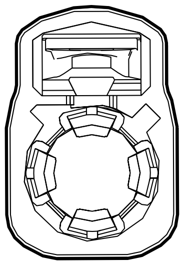
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575808	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
II	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

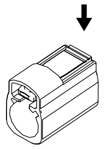
A11 Radio X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	D-BU	201	Left Front Speaker Control (+) (1)	I	—
2	0.75	YE	200	Right Front Speaker Control (+) (1)	I	—
3	0.5	L-GN	199	Left Rear Speaker Control (+)	II	—
4	0.5	WH	46	Right Rear Speaker Control (+)	II	—
5 - 7	—	—	—	Not Occupied	—	—
8	0.75	RD/VT	340	Battery Positive Voltage	I	—
9	0.75	BN/D-BU	118	Left Front Speaker Signal (-) (1)	I	—
10	0.75	YE/BK	117	Right Front Speaker Signal (-) (1)	I	—

11	0.5	L-GN/BK	116	Left Rear Speaker Signal (-)	II	—
12	0.5	D-BU/BK	115	Right Rear Speaker Signal (-)	II	—
13 - 15	—	—	—	Not Occupied	—	—
16	0.75	BK	2550	Ground	I	—

A11 Radio X4





Connector Part Information

Harness Type: Radio Antenna Jumper

OEM Connector: 1784257

Service Connector: Service by Harness - See Part Catalog

Description: 1-Way F COAX Type (BK)

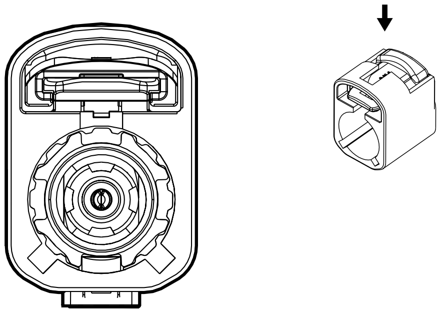
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

A11 Radio X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
-	-	COAX	-	AM/FM Antenna Signal	I	-

A11 Radio X6 (U2K or U2M)



Connector Part Information

Harness Type: Roof Antenna COAX

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1–Way COAX (TN)

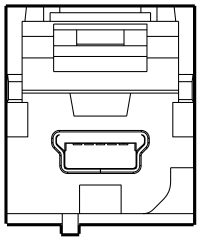
Terminal Part Information

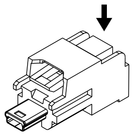
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

A11 Radio X6 (U2K or U2M)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	COAX	—	Coaxial Antenna XM Signal	I	—

A11 Radio X7 (IO3)





Connector Part Information

Harness Type: Instrument Panel LVDS

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: LVDS Cable Connector (BN)

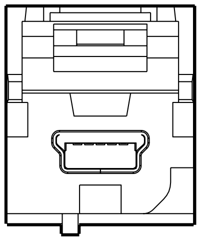
Terminal Part Information

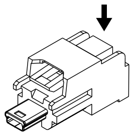
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

A11 Radio X7 (IO3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	LVDS	—	Infotainment Display Signal	I	—

A11 Radio X8 (IO3)





Connector Part Information

Harness Type: Instrument Panel USB

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: USB Cable Connector (BN)

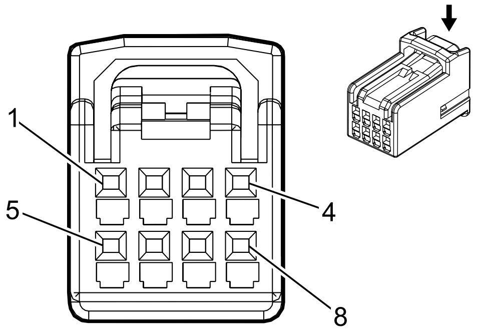
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

A11 Radio X8 (IO3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	USB	—	USB Serial Data	I	—

A14D Seat Lumbar Support Pump - Driver



Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: MX34E08SF1

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 0.64 Series (GY)

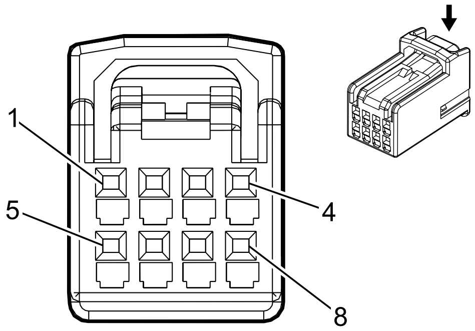
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

A14D Seat Lumbar Support Pump - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE/BR	768	Driver Power Seat Lumbar Motor Up Control	I	—
2	0.75	VT	610	Driver Power Seat Lumbar Motor Rearward Control	I	—
3	0.75	YE/L-BU	767	Driver Power Seat Lumbar Motor Down Control	I	—
4	—	—	—	Not Occupied	—	—
5	0.75	L-BU	611	Driver Power Seat Lumbar Motor Forward Control	I	—
6 - 8	—	—	—	Not Occupied	—	—

A14P Seat Lumbar Support Pump - Passenger



Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: MX34E08SF1

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 0.64 Series (GY)

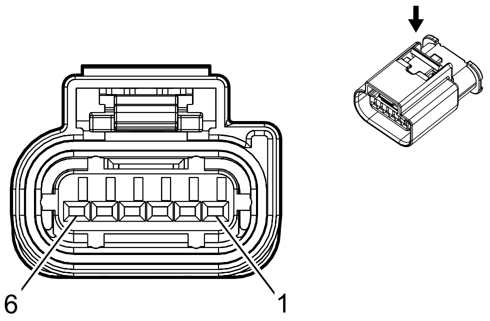
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

A14P Seat Lumbar Support Pump - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BR/YE	793	Passenger Power Seat Lumbar Motor Up Control	I	—
2	0.75	VT	210	Passenger Power Seat Lumbar Motor Rearward Control	I	—
3	0.75	L-BU/YE	792	Passenger Power Seat Lumbar Motor Down Control	I	—
4	—	—	—	Not Occupied	—	—
5	0.75	L-BU	211	Passenger Power Seat Lumbar Motor Forward Control	I	—
6 - 8	—	—	—	Not Occupied	—	—

A15 Starter/Generator



Connector Part Information

Harness Type: Engine

OEM Connector: 15500307

Service Connector: 19333225

Description: 6-Way F 1.2 Series, Sealed (BK)

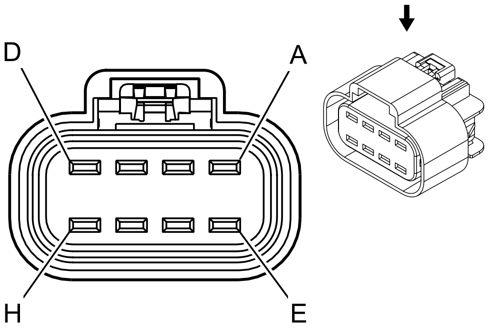
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

A15 Starter/Generator

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE	7649	Traction Power Inverter Module Resolver 1 S1 Signal	I	—
2	0.75	BN	7652	Traction Power Inverter Module Resolver 1 S3 Signal	I	—
3	0.75	WH/L-GN	7648	Traction Power Inverter Module Traction Power Inverter Module Resolver 1 Excitation Signal Negative	I	—
4	0.75	D-BU	7645	Traction Power Inverter Module Resolver 1 Excitation Signal Positive	I	—
5	0.75	VT/L-GN	7647	Transmission Traction Power Inverter Module Resolver 1 S2 Signal	I	—
6	0.75	GY	7646	Transmission Traction Power Inverter Module Resolver 1 S4 Signal	I	—

A16 Transfer Case Motor



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13669205

Service Connector: 19300464

Description: 8-Way F 280 GT 5.8 Series, Sealed (BK)

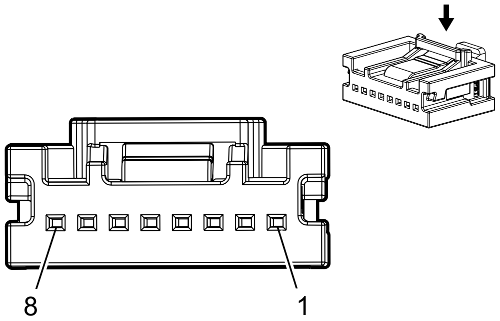
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

A16 Transfer Case Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	3	OG	1552	Transfer Case Motor Clockwise Control	I	—
B	3	RD/GY	1342	Battery Positive Voltage	I	—
C	2.5	YE/BN	1569	Transfer Case Lock Solenoid Control	I	—
D	3	YE/VT	1553	Transfer Case Motor Counter Clockwise Control	I	—
E	0.5	D-BU/GY	7473	Incremental Encoder Impulse Signal	I	—
F	0.5	YE	7474	Incremental Encoder Direction Signal	I	—
G	0.5	WH/L-GN	7475	Incremental Encoder Sensor 8 Volt Reference	I	—
H	0.5	VT	7476	Incremental Encoder Sensor Low Reference	I	—

A22 Radio Controls



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 33133856

Service Connector: 19333226

Description: 8-Way F 0.64 Series (BK)

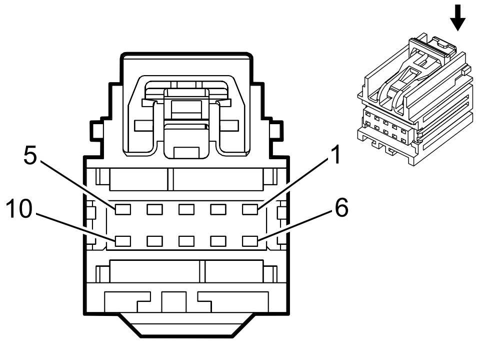
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

A22 Radio Controls

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/BN	3761	Infotainment Regulated Control	I	—
2	0.35	L-GN/BK	2515	Keypad Control	I	—
3	0.35	BN/L-GN	3983	Display Radio Bank Switch Signal 2	I	—
4	0.35	GY	314	Radio On Signal	I	—
5	0.35	GY/D-BU	3989	Display Radio Bank Switch Dim Signal	I	—
6	0.35	D-BU	4315	Radio Volume Up Signal	I	—
7	0.35	GY/BN	4314	Radio Volume Down Signal	I	—
8	0.35	BK/BN	2518	Keypad Low Reference	I	—

A23D Door Latch Assembly - Driver



Connector Part Information

Harness Type: Driver Door

OEM Connector: 13576047

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F 0.64 YESC Kaizen Series (GN)

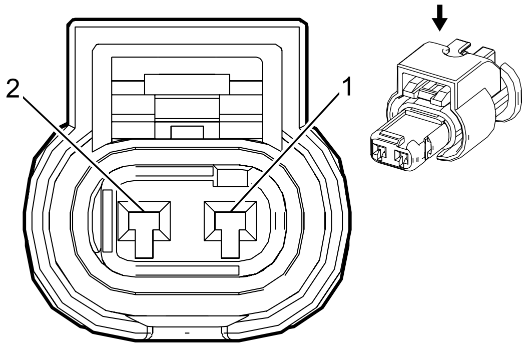
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

A23D Door Latch Assembly - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY	745	Left Front Door Ajar Switch Signal	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	BK	1150	Ground	I	—
4	0.35	WH/VT	3270	Driver Door Lock Motor Status Signal	I	—
5	0.35	D-BU/VT	1124	Door Lock Key Switch Unlock Signal	I	—
6	—	—	—	Not Occupied	—	—
7	0.75	GY	5911	Door Lock Actuator Lock Control 2	I	—
8	0.75	BN/BK	294	Door Lock Actuator Unlock Control	I	—
9 - 10	—	—	—	Not Occupied	—	—

A23E Door Latch Assembly - Endgate



Connector Part Information

Harness Type: Tailgate

OEM Connector: 13927761

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK with BK Inner Connector)

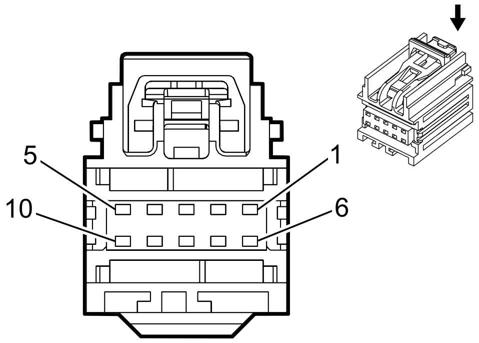
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

A23E Door Latch Assembly - Endgate

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY	295	Door Lock Actuator Lock Control	I	—
2	0.75	BN/YE	294	Door Lock Actuator Unlock Control	I	—

A23LR Door Latch Assembly - Left Rear



Connector Part Information

Harness Type: Left Rear Door

OEM Connector: 13576047

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F 0.64 YESC Kaizen Series (GN)

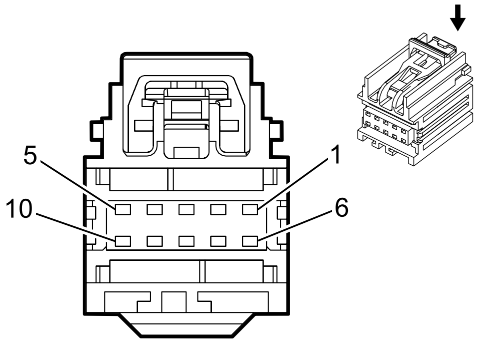
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

A23LR Door Latch Assembly - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/WH	747	Left Rear Door Ajar Switch Signal	I	—
2	0.35	BN/WH	3269	Child Security Lock Motor Status Signal Left Rear	I	—
3	0.5	BK	1150	Ground	I	—
4 - 6	—	—	—	Not Occupied	—	—
7	0.75	GY	295	Door Lock Actuator Lock Control	I	—
8	0.75	BN/YE	294	Door Lock Actuator Unlock Control	I	—
9	0.75	WH/D-BU	3266	Child Security Lock Motor Lock Control	I	—
10	—	—	—	Not Occupied	—	—

A23P Door Latch Assembly - Passenger



Connector Part Information

Harness Type: Passenger Door

OEM Connector: 13576047

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F 0.64 YESC Kaizen Series (GN)

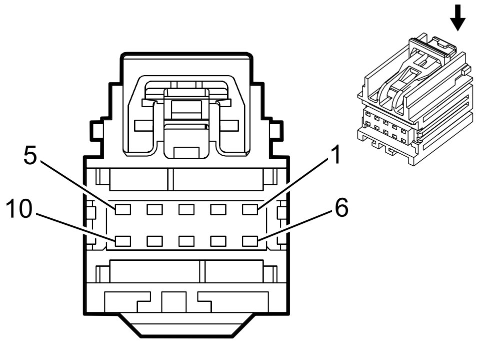
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

A23P Door Latch Assembly - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	BK	1250	Ground	I	—
4	—	—	—	Not Occupied	—	—
5	0.35	GY	746	Right Front Door Ajar Switch Signal	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.75	BN/YE	294	Door Lock Actuator Unlock Control	I	—
9	0.75	GY	295	Door Lock Actuator Lock Control	I	—
10	—	—	—	Not Occupied	—	—

A23RR Door Latch Assembly - Right Rear



Connector Part Information

Harness Type: Right Rear Door

OEM Connector: 13576047

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F 0.64 YESC Kaizen Series (GN)

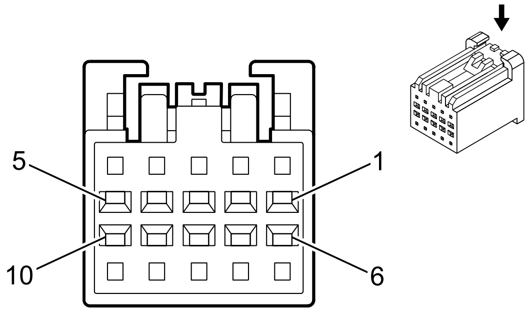
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

A23RR Door Latch Assembly - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	BK	1250	Ground	I	—
4	0.35	GY/BK	3268	Child Security Lock Motor Status Signal Right Rear	I	—
5	0.35	GY/WH	748	Right Rear Door Ajar Switch Signal	I	—
6	—	—	—	Not Occupied	—	—
7	0.75	WH/D-BU	3266	Child Security Lock Motor Lock Control	I	—
8	0.75	BN/YE	294	Door Lock Actuator Unlock Control	I	—
9	0.75	GY	295	Door Lock Actuator Lock Control	I	—
10	—	—	—	Not Occupied	—	—

A26 HVAC Controls



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13876499

Service Connector: 13581139

Description: 10-Way F 0.64 Kaizen Series (GY)

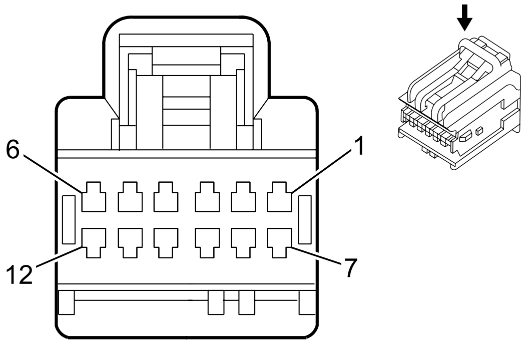
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

A26 HVAC Controls

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/GY	2840	Battery Positive Voltage	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	L-GN	5060	Low Speed GMLAN Serial Data	I	—
4 - 8	—	—	—	Not Occupied	—	—
9	0.35	L-GN/YE	7531	Local Interconnect Network Serial Data Bus 9	I	—
10	0.35	BK	2550	Ground	I	—

A33 Media Disc Player X1 (D07)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13784026

Service Connector: 13578574

Description: 12-Way F 0.64 Series (BK)

Terminal Part Information

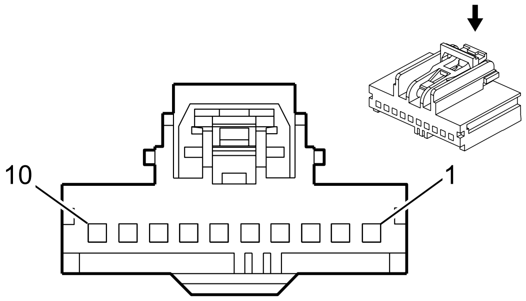
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575550	J-35616-16 (LT GN)	J-38125-559	15445905	8	J	J
II	13582250	J-35616-16 (LT GN)	J-38125-559	15445905	8	K	K

A33 Media Disc Player X1 (D07)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/VT	340	Battery Positive Voltage	II	—
2	—	—	—	Not Occupied	—	—
3	0.5	WH/L-GN	3997	MOST Serial Data (-)	I	—
4	0.5	GY/VT	3998	MOST Serial Data (+)	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	0.5	BK	2550	Ground	I	—
8	0.35	L-GN/YE	7066	Entertainment Remote Enable Signal	I	—
9	—	—	—	Not Occupied	—	—
10	0.35	WH/VT	3999	MOST Control	I	—

11	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
12	—	—	—	Not Occupied	—	—

A33 Media Disc Player X1 (TG5)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15490628

Service Connector: 89047355

Description: 10-Way F 0.64 Kaizen Series (BK)

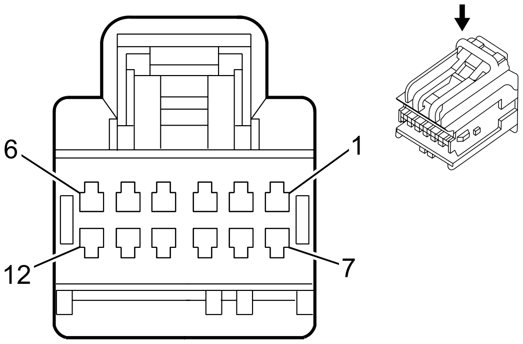
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

A33 Media Disc Player X1 (TG5)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/VT	3999	MOST Control	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	WH/L-GN	3997	MOST Serial Data (-)	I	—
4	0.5	GY/VT	3998	MOST Serial Data (+)	I	—
5 - 7	—	—	—	Not Occupied	—	—
8	0.75	BK	2550	Ground	I	—
9	—	—	—	Not Occupied	—	—
10	0.75	RD/VT	340	Battery Positive Voltage	I	—

A33 Media Disc Player X1 (U42)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13784026

Service Connector: 13578574

Description: 12-Way F 0.64 Series (BK)

Terminal Part Information

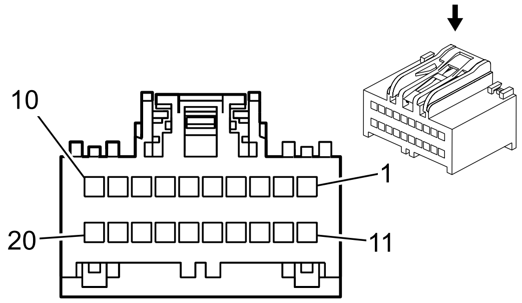
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13575550	J-35616-16 (LT GN)	J-38125-559	Not Required	Not Required	Not Required	Not Required
II	13582250	J-35616-16 (LT GN)	J-38125-559	Not Required	Not Required	Not Required	Not Required

A33 Media Disc Player X1 (U42)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/VT	340	Battery Positive Voltage	II	—
2	—	—	—	Not Occupied	—	—
3	0.5	WH	3997	MOST Serial Data (-)	I	—
	0.5	WH/L-GN	3997			—
4	0.5	GY/VT	3998	MOST Serial Data (+)	I	—
5	0.5	WH	3997	MOST Serial Data (-)	I	—
	0.5	WH/L-GN	3997			—
6	0.5	GY/VT	3998	MOST Serial Data (+)	I	—

7	0.5	BK	2550	Ground	I	—
8	0.35	—	7066	Entertainment Remote Enable Signal	I	—
	0.35	L-GN/YE	7066			—
9	—	—	—	Not Occupied	—	—
10	0.35	WH/VT	3999	MOST Control	I	—
11	0.5	—	5060	Low Speed GMLAN Serial Data	I	—
	0.5	L-GN	5060			—
12	—	—	—	Not Occupied	—	—

A33 Media Disc Player X2 (D07)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15491304

Service Connector: 15126710

Description: 20-Way F USCAR 64 Series (GY)

Terminal Part Information

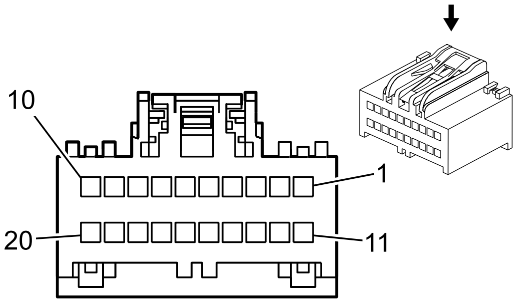
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

A33 Media Disc Player X2 (D07)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/WH	3355	Left Rear Seat Audio Headphone Signal	I	—
2	0.35	BN/GY	3357	Right Rear Seat Audio Headphone Signal	I	—
3	0.35	D-BU/VT	3356	Rear Seat Audio Headphone Common Signal	I	—
4	0.5	BARE	3354	Rear Seat Audio Headphone Low Reference	I	—
5 - 10	—	—	—	Not Occupied	—	—
11	0.35	YE	2059	Left Auxiliary Audio Signal (1)	I	—
12	0.35	WH	2058	Right Auxiliary Audio Signal (1)	I	—
13	0.35	BN	3374	Auxiliary Audio Common Signal (2)	I	—

14	0.5	BARE	5345	Auxiliary Audio Low Reference (1)	I	—
15	0.35	YE	2056	Auxiliary Video High Signal	I	—
16	0.5	BARE	2057	Auxiliary Video Low Signal	I	—
17 - 20	—	—	—	Not Occupied	—	—

A33 Media Disc Player X2 (U42)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15491304

Service Connector: 15126710

Description: 20-Way F USCAR 64 Series (GY)

Terminal Part Information

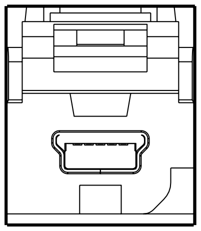
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	Not Required	Not Required	Not Required	Not Required
I	13575867	J-35616-64B (LT BU)	J-38125-215A	Not Required	Not Required	Not Required	Not Required

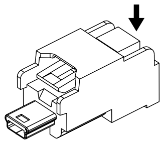
A33 Media Disc Player X2 (U42)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	—	3355	Left Rear Seat Audio Headphone Signal	I	—
	0.35	L-GN/WH	3355			—
2	0.35	BN/GY	3357	Right Rear Seat Audio Headphone Signal	I	—
3	0.35	—	3356	Rear Seat Audio Headphone Common Signal	I	—
	0.35	D-BU/VT	3356			—
4	0.5	BARE	3354	Rear Seat Audio Headphone Low Reference	I	—
	0.5	—	3354			—
5 - 10	—	—	—	Not Occupied	—	—

11	0.35	YE	2059	Left Auxiliary Audio Signal (1)	I	—
12	0.35	WH	2058	Right Auxiliary Audio Signal (1)	I	—
13	0.35	BN	3374	Auxiliary Audio Common Signal (2)	I	—
14	0.5	—	5345	Auxiliary Audio Low Reference (1)	I	—
	0.5	BARE	5345			—
15	0.35	YE	2056	Auxiliary Video High Signal	I	—
16	0.5	—	2057	Auxiliary Video Low Signal	I	—
	0.5	BARE	2057			—
17 - 20	—	—	—	Not Occupied	—	—

A33 Media Disc Player X3 (U42)





Connector Part Information

Harness Type: Instrument Panel USB

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1-Way USB Cable Connector (BK)

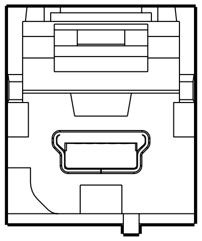
Terminal Part Information

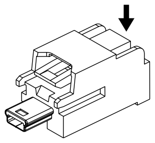
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

A33 Media Disc Player X3 (U42)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
-	-	USB	-	USB Serial Data	I	-

A33 Media Disc Player X4 (U42)





Connector Part Information

Harness Type: Instrument Panel LVDS

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1-Way F LVDS Cable Connector (WH)

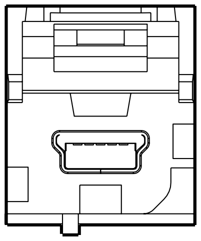
Terminal Part Information

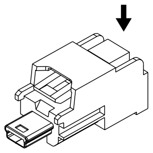
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

A33 Media Disc Player X4 (U42)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
-	-	LVDS	-	Infotainment Display Signal	I	-

A33 Media Disc Player X5 (U42)





Connector Part Information

Harness Type: Instrument Panel LVDS

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1-Way F LVDS Cable Connector (GY)

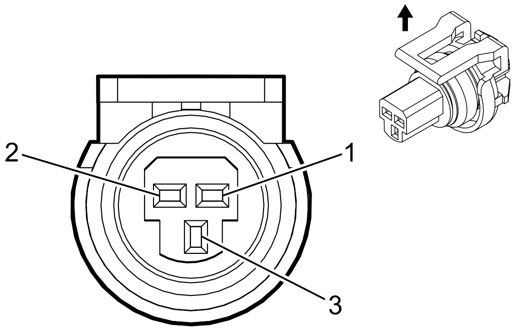
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

A33 Media Disc Player X5 (U42)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
-	-	LVDS	-	Infotainment Display Signal	I	-

B1 A/C Refrigerant Pressure Sensor



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13846842

Service Connector: 19301715

Description: 3-Way F 150 GT Series, Sealed (BK)

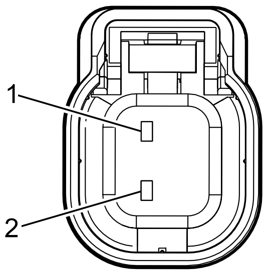
Terminal Part Information

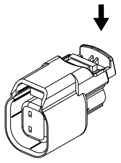
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B1 A/C Refrigerant Pressure Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/BN	5514	A/C Refrigerant Pressure Sensor Low Reference	I	—
2	0.5	BN/RD	2700	A/C Pressure Sensor 5 Volt Reference	I	—
3	0.5	L-GN	380	A/C Refrigerant Pressure Sensor Signal	I	—

B5LF Wheel Speed Sensor - Left Front





Connector Part Information

Harness Type: Chassis

OEM Connector: 13828712

Service Connector: 19300543

Description: 2-Way F 1.5 Series, Sealed (BK)

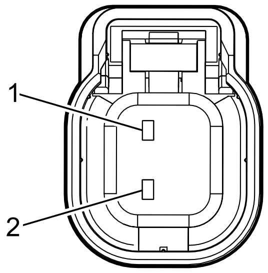
Terminal Part Information

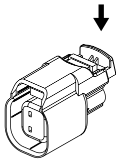
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B5LF Wheel Speed Sensor - Left Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/WH	7064	Wheel Speed Sensor Control Left Front	I	—
2	0.5	GY	830	Wheel Speed Sensor Signal Left Front	I	—

B5LR Wheel Speed Sensor - Left Rear





Connector Part Information

Harness Type: Chassis

OEM Connector: 13828712

Service Connector: 19300543

Description: 2-Way F 1.5 Series, Sealed (BK)

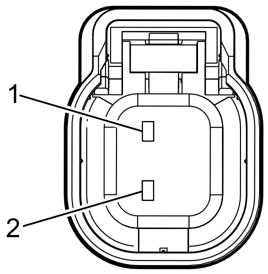
Terminal Part Information

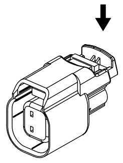
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B5LR Wheel Speed Sensor - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/BK	7127	Wheel Speed Sensor Control Left Rear	I	—
2	0.5	D-BU	884	Wheel Speed Sensor Signal Left Rear	I	—

B5RF Wheel Speed Sensor - Right Front





Connector Part Information

Harness Type: Chassis

OEM Connector: 13828712

Service Connector: 19300543

Description: 2-Way F 1.5 Series, Sealed (BK)

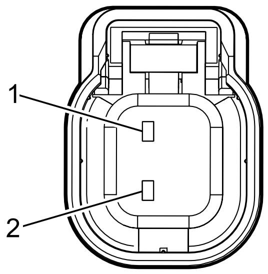
Terminal Part Information

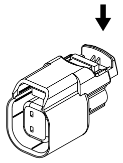
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B5RF Wheel Speed Sensor - Right Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/BN	7065	Wheel Speed Sensor Control Right Front	I	—
2	0.5	YE	872	Wheel Speed Sensor Signal Right Front	I	—

B5RR Wheel Speed Sensor - Right Rear





Connector Part Information

Harness Type: Chassis

OEM Connector: 13828712

Service Connector: 19300543

Description: 2-Way F 1.5 Series, Sealed (BK)

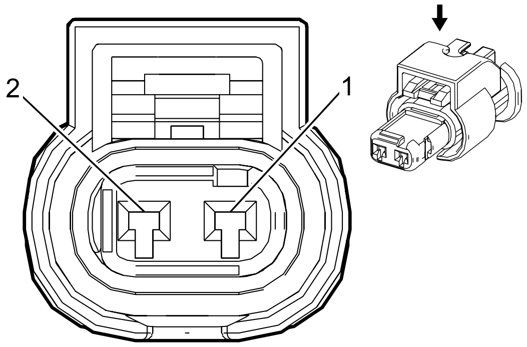
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B5RR Wheel Speed Sensor - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/YE	7128	Wheel Speed Sensor Control Right Rear	I	—
2	0.5	VT	882	Wheel Speed Sensor Signal Right Rear	I	—

B9 Ambient Air Temperature Sensor



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13927761

Service Connector: 19300402

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK with BK Inner Connector)

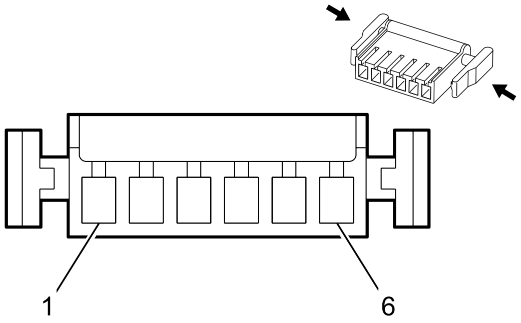
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B9 Ambient Air Temperature Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/GY	636	Outside Ambient Air Temperature Sensor Signal	I	—
2	0.5	BK/D-BU	61	Outside Ambient Temperature Sensor Low Reference	I	—

B10B Ambient Light/Sunload Sensor



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13726957

Service Connector: 13576539

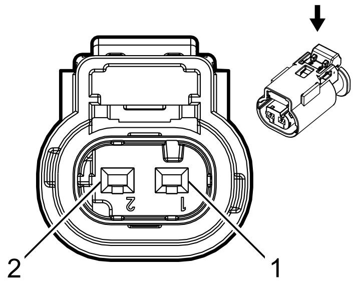
Description: 6-Way F 0.64 Micro-Quadlock Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B10B Ambient Light/Sunload Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY	728	Security Indicator Control	I	—
2	0.35	GY	590	Solar Sensor Driver Signal	I	—
3	0.35	D-BU/WH	734	Inside Air Temperature Sensor Signal	I	—
4	0.35	YE/VT	1783	Twilight Sentinel Delay Signal	I	—
5	0.35	WH/D-BU	278	Ambient Light Sensor Signal	I	—
6	0.35	BK/YE	1791	Air Temperature Door Control Low Reference	I	—



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13735326

Service Connector: 13587326

Description: 2-Way F 1.2 MLK Series, Sealed (BK)

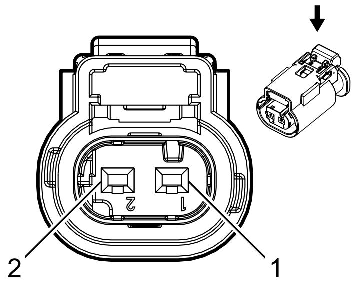
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B14B Transmission Turbine Speed Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	L-GN/YE	6353	Input Speed Signal	I	—
2	0.75	YE/D-BU	4171	Transmission Position Sensor A 9 Volt Reference	I	—

B14C Transmission Input Shaft Speed Sensor (except LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 13735326

Service Connector: 13503566

Description: 2-Way F 1.2 MLK Series, Sealed (BK)

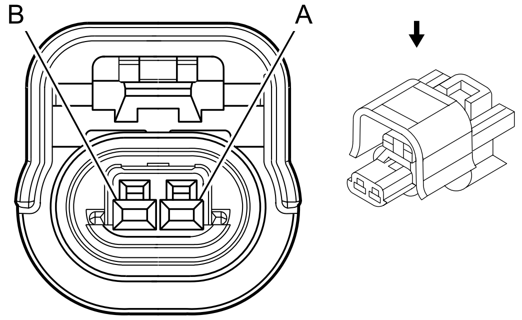
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-16 (LT GN)	Not Available	Not Available	Not Available	Not Available	Not Available

B14C Transmission Input Shaft Speed Sensor (except LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	L-GN/YE	6353	Input Speed Signal	I	-
2	0.75	YE/D-BU	4171	Transmission Sensor A Voltage Reference 9V	I	-

B14C Transmission Input Shaft Speed Sensor (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 15490464

Service Connector: 19115100

Description: 2-Way F 150 GT Series, Sealed (BK)

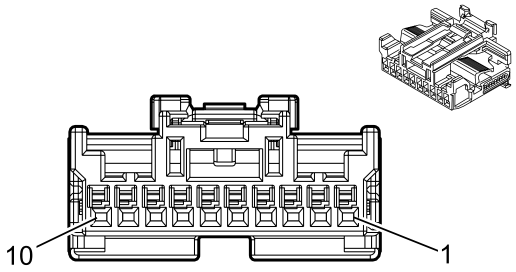
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available

B14C Transmission Input Shaft Speed Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH/BK	1983	Transmission Turbine Speed Switch Signal	I	-
B	0.5	BK/D-BU	1984	Transmission Turbine Speed Switch Low Reference	I	-

B15 Transmission Internal Mode Switch (M5U)



Connector Part Information

Harness Type: Transmission Control

OEM Connector: 2138504–1

Service Connector: Service by Harness — See Part Catalog

Description: 10–Way F 0.64 Generation Y Series (BN)

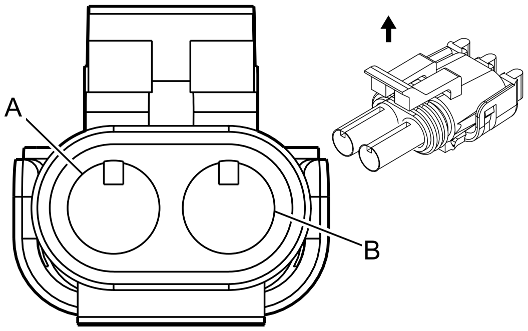
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

B15 Transmission Internal Mode Switch (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/GY	1786	Transmission Park/Neutral Signal (1)	I	-
2	0.5	BK/GY	3927	IMS Mode Switch Low Reference	I	-
3	-	-	-	Not Occupied	-	-
4	0.5	YE/BU	4171	Transmission Position Sensor A 9 Volt Reference	I	-
5	0.5	VT/WH	5981	PRNDL A Signal	I	-
6	0.5	WH/BK	5983	PRNDL C Signal	I	-
7	0.5	GY/YE	4169	PRNDL S Signal	I	-
8	0.5	GY/BN	5982	PRNDL B Signal	I	-
9	0.5	GY/WH	4168	PRNDL P Signal	I	-
10	0.5	YE/GN	4170	Transmission Position Sensor B 9 Volt Reference	I	-

B16 Backup Lamp Switch (MQ7)



Connector Part Information

Harness Type: Engine

OEM Connector: 12103584

Service Connector: 12085485

Description: 2-Way M Weather Pack Series (BK)

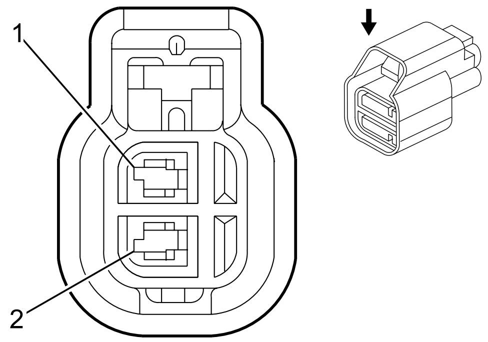
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-9 (OG)	Not Required	Not Required	Not Required	Not Required	Not Required

B16 Backup Lamp Switch (MQ7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	BK/WH	451	Signal Ground	I	—
B	0.5	L-GN/WH	5007	Reverse Switch Signal	I	—

B16 Backup Lamp Switch (M2P or MXW)



Connector Part Information

Harness Type: Engine

OEM Connector: 15383325

Service Connector: 89046838

Description: 2-Way F 1.5 Series (BK)

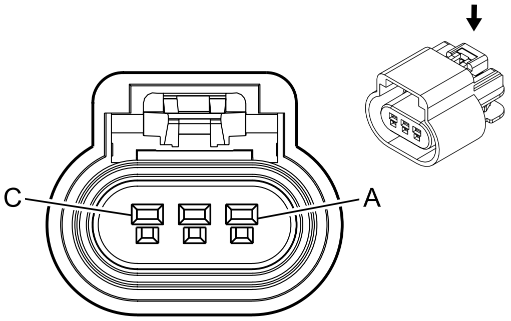
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B16 Backup Lamp Switch (M2P or MXW)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK/WH	451	Signal Ground	I	—
2	0.5	L-GN/WH	5007	Reverse Switch Signal	I	—

B18 Battery Current Sensor



Connector Part Information

Harness Type: Engine

OEM Connector: 13519047

Service Connector: 13580871

Description: 3-Way F 150 GT Series, Sealed (BK)

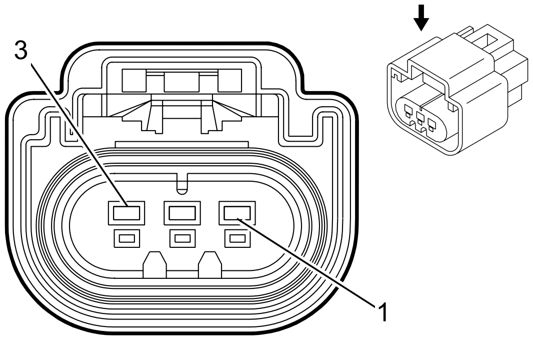
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B18 Battery Current Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	D-BU/VT	5076	Current Sensor Control	I	—
B	0.5	BK/PU	5077	Current Sensor Low Reference	I	—
C	0.5	WH/YE	5075	Current Sensor Signal	I	—

B19B Brake Booster Vacuum Sensor



Connector Part Information

Harness Type: Chassis

OEM Connector: 13511996

Service Connector: 13580873

Description: 3-Way F 150 GT Series, Sealed (GY)

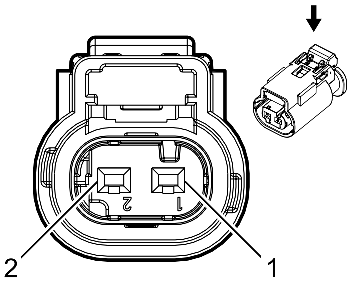
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B19B Brake Booster Vacuum Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/VT	6030	Brake Vacuum Sensor Signal	I	—
2	0.5	BK/YE	6032	Brake Vacuum Sensor Low Reference	I	—
3	0.5	YE/RD	6031	Brake Vacuum Sensor 5 Volt Reference	I	—

B20 Brake Fluid Level Switch



Connector Part Information

Harness Type: Chassis

OEM Connector: 13735326

Service Connector: 13587326

Description: 2-Way F 1.2 MLK Series, Sealed (BK)

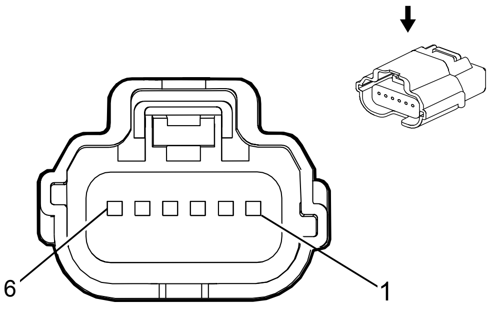
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B20 Brake Fluid Level Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	2150	Ground	I	—
	0.75	BK	2150			—
2	0.5	L-GN/GY	333	Brake Fluid Level Sensor Signal	I	—

B22 Brake Pedal Position Sensor



Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 13893502

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 64 Series, Sealed (NA)

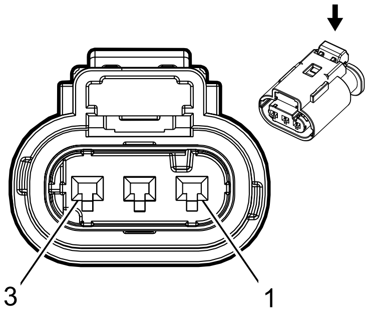
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B22 Brake Pedal Position Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/L-GN	552	Sensor Low Reference	I	—
2	0.5	GY/RD	598	5 Volt Reference	I	—
3	0.5	WH/L-GN	526	Stop Lamp Switch Signal	I	—
4	0.5	D-BU/YE	5361	Brake Apply Sensor Signal	I	—
5	0.5	BK/BN	5360	Brake Apply Sensor Low Reference	I	—
6	0.5	WH	5359	Brake Apply Sensor Control	I	—

B23 Camshaft Position Sensor (L96)



Connector Part Information

Harness Type: Camshaft Position Sensor Jumper

OEM Connector: 13763990

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 1.2 MLK Series, Sealed (BK)

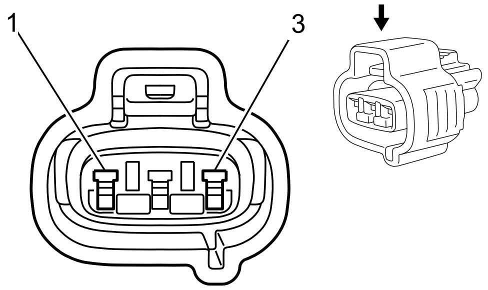
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B23 Camshaft Position Sensor (L96)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/D-BU	5300	Camshaft Position Intake Sensor Control (1)	I	—
2	0.5	BK/L-GN	5301	Camshaft Position Intake Sensor Low Reference (1)	I	—
3	0.5	YE/VT	5275	Camshaft Position Intake Sensor (1)	I	—

B23 Camshaft Position Sensor (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 6248-5317

Service Connector: 13576413

Description: 3-Way F Sealed (GY)

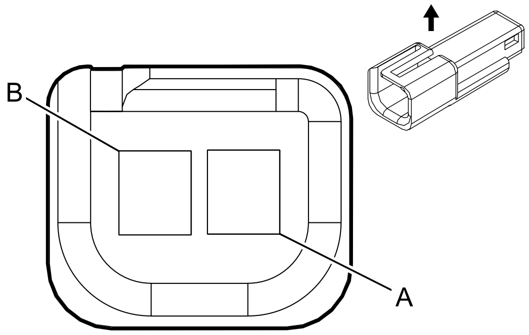
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-18 (BK)	Not Required	Not Required	Not Required	Not Required	Not Required

B23 Camshaft Position Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BU/WH	6265	Camshaft CAM W Signal	I	LML
2	0.5	BR	6266	Camshaft CAM W Ground	I	LML
3	0.5	BU	6259	Camshaft CAM W Control	I	LML

B24 Cellular Phone Microphone



Connector Part Information

Harness Type: Headliner

OEM Connector: 12047663

Service Connector: 13584278

Description: 2-Way M 150 Metri-Pack Series (BK)

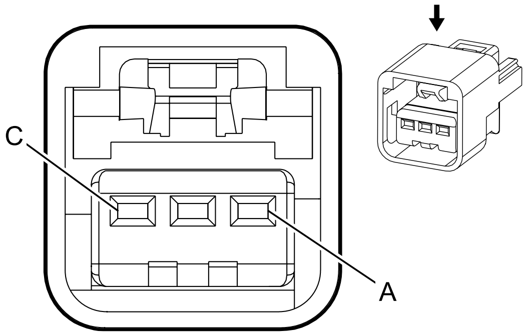
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B24 Cellular Phone Microphone

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.35	BK/BN	654	Cellular Telephone Microphone Low Reference	I	—
B	0.35	D-BU	655	Cellular Telephone Microphone Signal	I	—

B25B Clutch Pedal Position Sensor



Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 15332132

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 150 GT Series (BK)

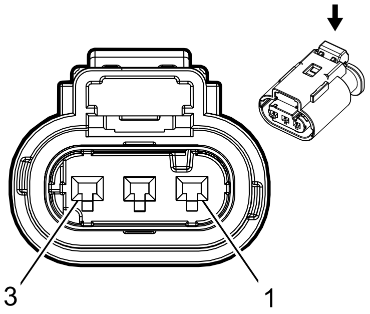
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B25B Clutch Pedal Position Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	GY/RD	6109	Clutch Apply Sensor 5 Volt Reference	I	—
B	0.5	YE	6111	Clutch Apply Sensor Signal	I	—
C	0.5	BK/GY	6110	Clutch Apply Sensor Low Reference	I	—

B26 Crankshaft Position Sensor (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13763990

Service Connector: 19299690

Description: 3-Way F 1.2 MLK Series, Sealed (BK)

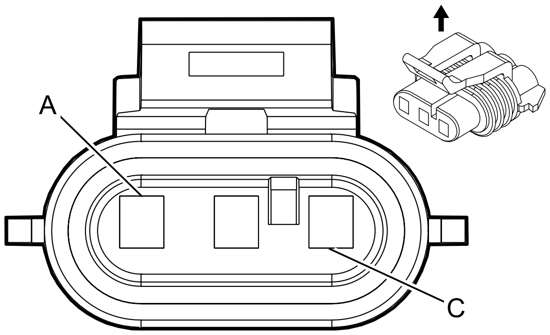
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B26 Crankshaft Position Sensor (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN	6271	Crankshaft 60X Sensor Signal	I	—
2	0.5	BK/PU	6272	Crankshaft 60X Sensor Low Reference	I	—
3	0.5	VT/D-BU	6270	Crankshaft 60X Sensor 5 Volt Reference	I	—

B26 Crankshaft Position Sensor (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 13838337

Service Connector: 19329936

Description: 3-Way F 150 Metri-Pack Series, Sealed (GY)

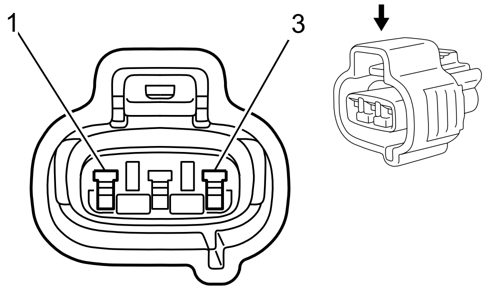
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B26 Crankshaft Position Sensor (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	L-GN	6271	Crankshaft 60X Sensor Signal	I	—
B	0.5	BK/PU	6272	Crankshaft 60X Sensor Low Reference	I	—
C	0.5	VT/D-BU	6270	Crankshaft 60X Sensor 5 Volt Reference	I	—

B26 Crankshaft Position Sensor (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 6248-5317

Service Connector: 13576413

Description: 3-Way F Sealed (GY)

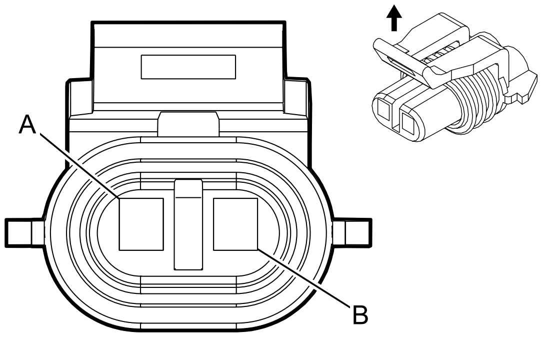
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-18 (BK)	Not Required	Not Required	Not Required	Not Required	Not Required

B26 Crankshaft Position Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/BK	6271	Crankshaft 60X Sensor Signal	I	LML
2	0.5	GY/BK	6272	Crankshaft 60X Sensor Low Reference	I	LML
3	0.5	VT/WH	6270	Crankshaft 60X Sensor 5 Volt Reference	I	LML

B33 Engine Coolant Level Switch



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 12052641

Service Connector: 13586114

Description: 2-Way F 150 Metri-Pack Series (BK)

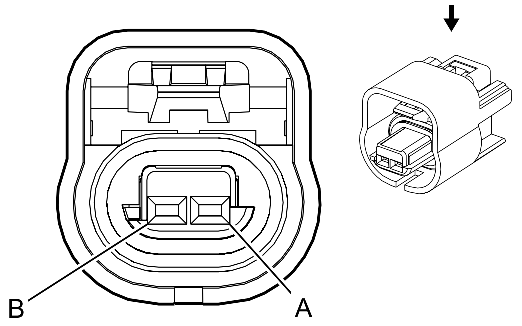
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B33 Engine Coolant Level Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	D-BU/YE	68	Low Coolant Level Indicator Control	I	—
B	0.75	BK/WH	451	Signal Ground	I	—

B34 Engine Coolant Temperature Sensor (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 15355317

Service Connector: 19178093

Description: 2-Way F 150 GT Series, Sealed (BK)

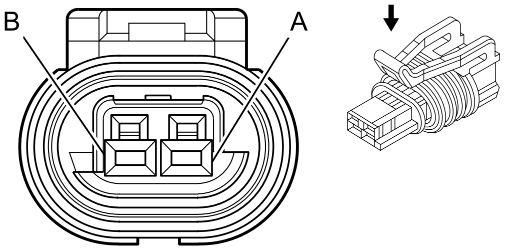
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B34 Engine Coolant Temperature Sensor (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BK/BN	2761	Coolant Temperature Sensor Low Reference	I	—
B	0.5	D-BU	410	Engine Coolant Temperature Sensor Signal	I	—

B34 Engine Coolant Temperature Sensor (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15449028

Service Connector: 88987993

Description: 2-Way F 150 GT Series, Sealed (BK)

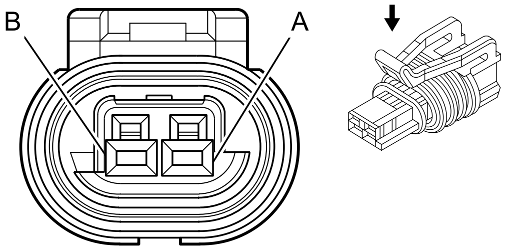
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B34 Engine Coolant Temperature Sensor (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BK/BN	2761	Coolant Temperature Sensor Low Reference	I	—
B	0.5	D-BU	410	Engine Coolant Temperature Sensor Signal	I	—

B34 Engine Coolant Temperature Sensor (LML)



Connector Part Information

Harness Type: Engine Jumper

OEM Connector: 15449028

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 150 GT Series, Sealed (BK)

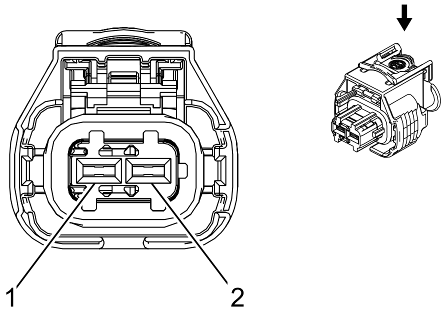
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B34 Engine Coolant Temperature Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	YE	410	Engine Coolant Temperature Sensor Signal	I	LML
B	0.5	—	2761	Coolant Temperature Sensor Low Reference	I	LML

B35 Engine Oil Level Switch (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13930085

Service Connector: 13384371

Description: 2-Way F 2.8 Series, Sealed (BK)

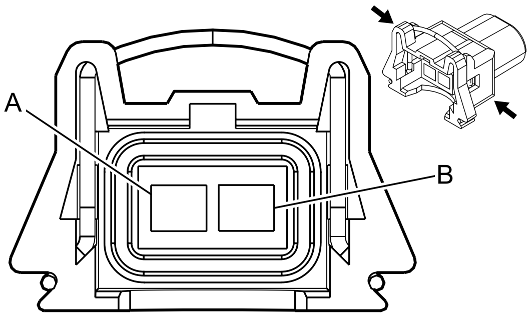
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

B35 Engine Oil Level Switch (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/WH	451	Signal Ground	I	—
2	0.5	BN/L-GN	1174	Oil Level Switch Signal	I	—

B35 Engine Oil Level Switch (LML)



Connector Part Information

Harness Type: Engine Jumper

OEM Connector: 12129140

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 280 Metri-Pack.1 , Pull To Seat (BK)

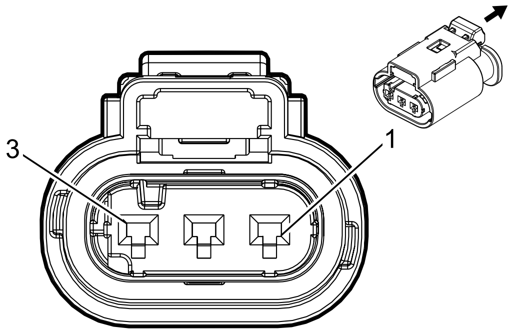
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

B35 Engine Oil Level Switch (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BR	1174	Oil Level Switch Signal	I	LML
B	0.5	BK/WH	451	Signal Ground	I	LML

B37B Engine Oil Pressure Sensor (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13889776

Service Connector: 19301717

Description: 3-Way F 1.2 MLK Series, Sealed (BK)

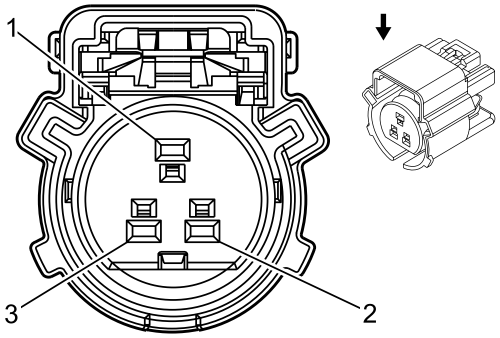
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B37B Engine Oil Pressure Sensor (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BN	331	Oil Pressure Sensor Signal	I	—
2	0.5	BK/PU	2755	Oil Pressure Sensor Low Reference	I	—
3	0.5	WH/RD	2705	Oil Pressure Sensor 5 Volt Reference	I	—

B37B Engine Oil Pressure Sensor (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 13589761

Service Connector: 13501882

Description: 3-Way F 150 GT Series, Sealed (BK)

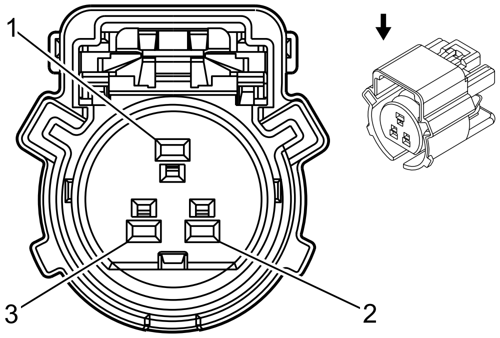
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B37B Engine Oil Pressure Sensor (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BN	331	Oil Pressure Sensor Signal	I	—
2	0.5	WH/RD	2705	Oil Pressure Sensor 5 Volt Reference	I	—
3	0.5	BK/PU	2755	Oil Pressure Sensor Low Reference	I	—

B37B Engine Oil Pressure Sensor (LML)



Connector Part Information

Harness Type: Engine Jumper

OEM Connector: 13589761

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 150 GT Series, Sealed (BK)

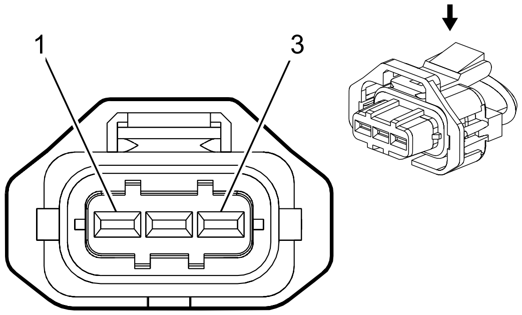
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B37B Engine Oil Pressure Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	—	331	Oil Pressure Sensor Signal	I	LML
2	0.5	GY	2705	Oil Pressure Sensor 5 Volt Reference	I	LML
3	0.5	BK	2755	Oil Pressure Sensor Low Reference	I	LML

B47B Fuel Rail Pressure Sensor



Connector Part Information

Harness Type: Fuel Pressure Sensor Jumper

OEM Connector: 1928403968

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 2.8 Series, Sealed (BK)

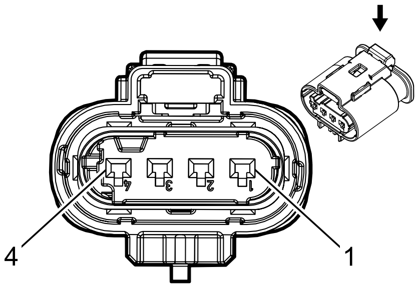
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

B47B Fuel Rail Pressure Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OR/BK	2919	Fuel Rail Pressure Sensor Low Reference	I	LML/LGH
2	0.5	YE	2918	Fuel Rail Pressure Sensor Signal	I	LML/LGH
3	0.5	—	2917	Fuel Rail Pressure Sensor 5 Volt Reference	I	LML/LGH

B47B Fuel Rail Pressure Sensor (1500)



Connector Part Information

Harness Type: Odd Fuel Injector Jumper

OEM Connector: 13503575

Service Connector: 13587299

Description: 4-Way F 1.2 MLK Series, Sealed (BK)

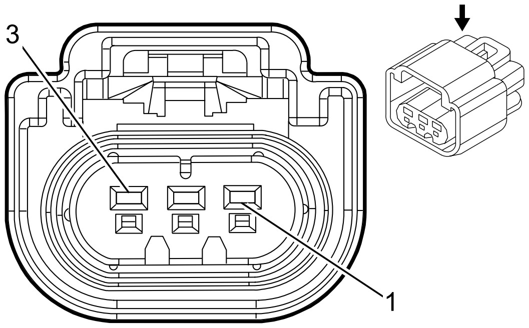
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13614581	J-35616-16 (L-GN)	J-38125-21	Not Available	Not Available	Not Available	Not Available

B47B Fuel Rail Pressure Sensor (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/RD	2917	Fuel Rail Pressure Sensor (5) Volt Reference	I	-
2	0.5	BN/YE	2161	Fuel Rail Pressure Sensor #2 Signal	I	-
3	0.5	BK/GN	2919	Fuel Rail Pressure Sensor Low Reference	I	-
4	0.5	BU/WH	2918	Fuel Rail Pressure Sensor Signal	I	-

B47 Fuel Pressure Sensor



Connector Part Information

Harness Type: Chassis

OEM Connector: 13511131

Service Connector: 19168035

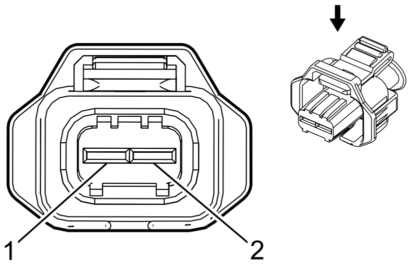
Description: 3-Way F 150 GT Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B47 Fuel Pressure Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/WH	7446	Fuel Line Pressure Sensor Signal	I	—
2	0.5	BK/YE	7447	Fuel Line Pressure Sensor Low Reference	I	—
3	0.5	BN/RD	7445	Fuel Line Pressure Sensor 5 Volt Reference	I	—



Connector Part Information

Harness Type: Engine Jumper

OEM Connector: 1928404114

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 2.8 Series, Sealed (BK)

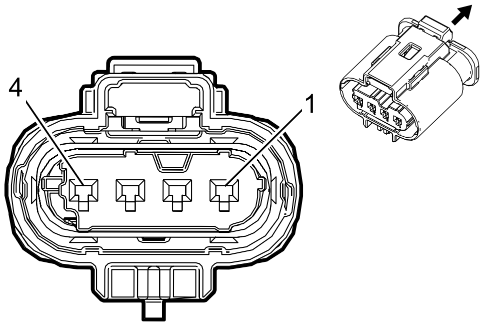
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

B48 Fuel Temperature Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BR/GY	7072	Sensor Fuel Temperature 1 Signal	I	LML
2	0.5	BR/WH	7073	Sensor Fuel Temperature 1 Low Reference	I	LML

B52C Heated Oxygen Sensor - Bank 1 Sensor 1



Connector Part Information

Harness Type: Engine

OEM Connector: 13869004

Service Connector: 19301716

Description: 4-Way F 1.2 MLK Series, Sealed (D-GY)

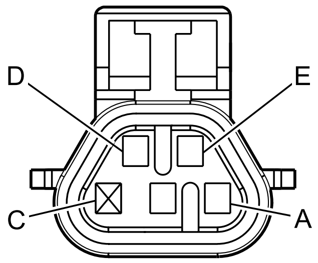
Terminal Part Information

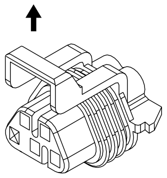
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B52C Heated Oxygen Sensor - Bank 1 Sensor 1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/WH	3113	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (1)	I	—
2	0.5	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
	0.75	VT/D-BU	5293			—
3	0.5	WH/BK	3111	Heated Oxygen Sensor Low Signal Bank 1 Sensor (1)	I	—
4	0.5	VT/GY	3110	Heated Oxygen Sensor High Signal Bank 1 Sensor (1)	I	—

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L96 with ZW9)





Connector Part Information

Harness Type: Engine

OEM Connector: 12146047

Service Connector: 12146047

Description: 5-Way F 150 Metri-Pack Series, Sealed (BK)

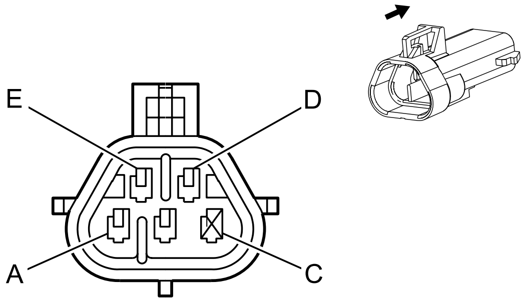
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L96 with ZW9)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH/BK	3111	Heated Oxygen Sensor Low Signal Bank 1 Sensor (1)	I	—
B	0.5	VT/GY	3110	Heated Oxygen Sensor High Signal Bank 1 Sensor (1)	I	—
C	—	—	—	Not Occupied	—	—
D	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
E	0.5	GY/WH	3113	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (1)	I	—

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L96 without ZW9 or LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 12092839

Service Connector: 13585848

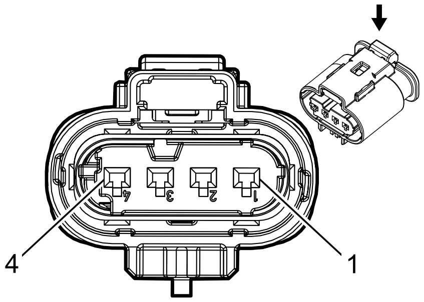
Description: 5-Way M 150 Metri-Pack Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B52C Heated Oxygen Sensor - Bank 1 Sensor 1 (L96 without ZW9 or LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH/BK	3111	Heated Oxygen Sensor Low Signal Bank 1 Sensor (1)	I	—
B	0.5	VT/GY	3110	Heated Oxygen Sensor High Signal Bank 1 Sensor (1)	I	—
C	—	—	—	Not Occupied	—	—
D	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
E	0.5	GY/WH	3113	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (1)	I	—



Connector Part Information

Harness Type: Chassis

OEM Connector: 13815348

Service Connector: 13587298

Description: 4-Way F 1.2 MLK Series, Sealed (L-GY)

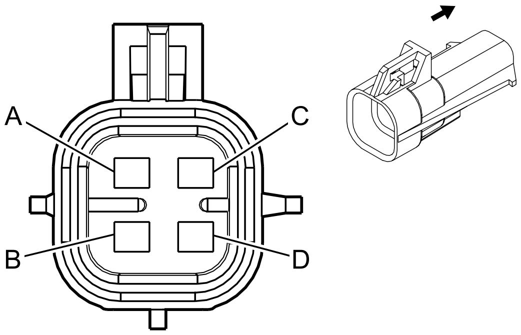
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B52D Heated Oxygen Sensor - Bank 1 Sensor 2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/WH	3122	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (2)	I	—
2	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—
3	0.5	WH/YE	3121	Heated Oxygen Sensor Low Signal Bank 1 Sensor (2)	I	—
4	0.5	VT	3120	Heated Oxygen Sensor High Signal Bank 1 Sensor (2)	I	—

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L96 with ZW9)



Connector Part Information

Harness Type: Engine

OEM Connector: 15326423

Service Connector: Pending

Description: 4-Way M 150 Metri-Pack Series, Sealed (GY)

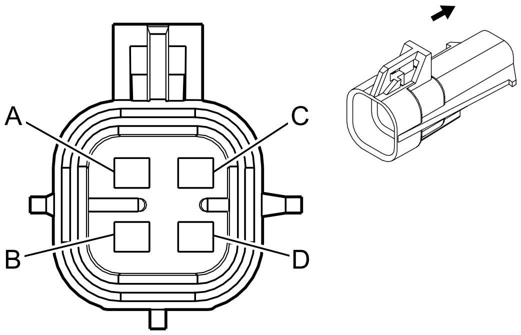
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L96 with ZW9)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH/YE	3121	Heated Oxygen Sensor Low Signal Bank 1 Sensor (2)	I	—
B	0.5	VT/D-BU	3120	Heated Oxygen Sensor High Signal Bank 1 Sensor (2)	I	—
C	0.5	GY/WH	3122	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (2)	I	—
D	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L96/LC8 without ZW9)



Connector Part Information

Harness Type: Chassis

OEM Connector: 15326423

Service Connector: Pending

Description: 4-Way M 150 Metri-Pack Series, Sealed (GY)

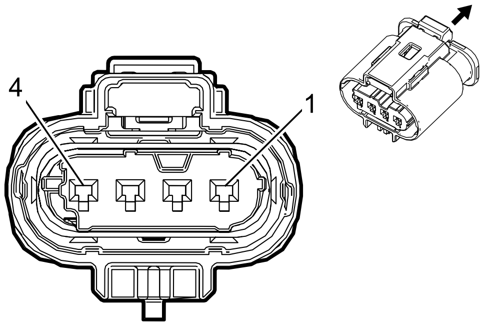
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

B52D Heated Oxygen Sensor - Bank 1 Sensor 2 (L96/LC8 without ZW9)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH/YE	3121	Heated Oxygen Sensor Low Signal Bank 1 Sensor (2)	I	—
B	0.5	VT	3120	Heated Oxygen Sensor High Signal Bank 1 Sensor (2)	I	—
C	0.5	GY/WH	3122	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (2)	I	—
D	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—

B52E Heated Oxygen Sensor - Bank 2 Sensor 1



Connector Part Information

Harness Type: Engine

OEM Connector: 13869004

Service Connector: 19301716

Description: 4-Way F 1.2 MLK Series, Sealed (D-GY)

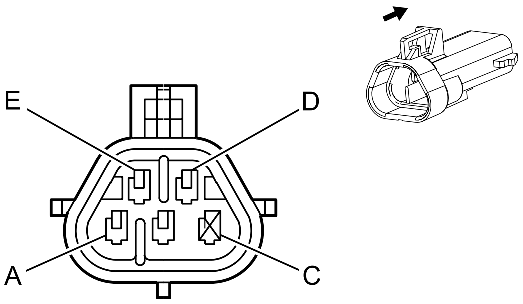
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B52E Heated Oxygen Sensor - Bank 2 Sensor 1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/YE	3212	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (1)	I	—
2	0.5	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
	0.75	VT/D-BU	5293			—
3	0.5	YE/WH	3211	Heated Oxygen Sensor Low Signal Bank 2 Sensor (1)	I	—
4	0.5	VT/WH	3210	Heated Oxygen Sensor High Signal Bank 2 Sensor (1)	I	—

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L96 with ZW9)



Connector Part Information

Harness Type: Engine

OEM Connector: 12092839

Service Connector: 13585848

Description: 5-Way M 150 Metri-Pack Series, Sealed (BK)

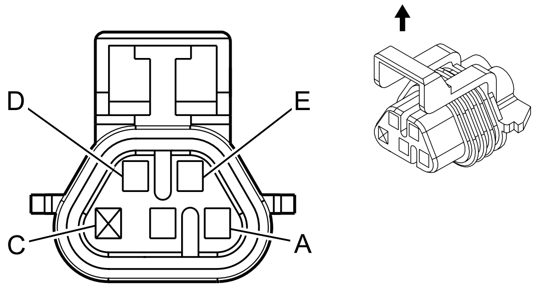
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L96 with ZW9)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	YE/WH	3211	Heated Oxygen Sensor Low Signal Bank 2 Sensor (1)	I	—
B	0.5	VT/WH	3210	Heated Oxygen Sensor High Signal Bank 2 Sensor (1)	I	—
C	—	—	—	Not Occupied	—	—
D	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
E	0.5	L-GN/YE	3212	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (1)	I	—

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L96/LC8 without ZW9)



Connector Part Information

Harness Type: Engine

OEM Connector: 12146047

Service Connector: 12146047

Description: 5-Way F 150 Metri-Pack Series, Sealed (BK)

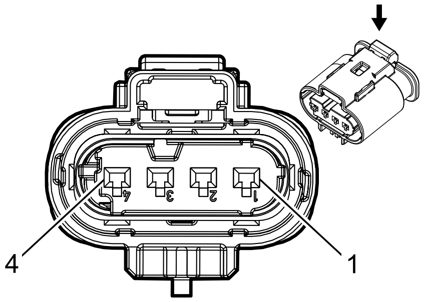
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B52E Heated Oxygen Sensor - Bank 2 Sensor 1 (L96/LC8 without ZW9)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	YE/WH	3211	Heated Oxygen Sensor Low Signal Bank 2 Sensor (1)	I	—
B	0.5	VT/WH	3210	Heated Oxygen Sensor High Signal Bank 2 Sensor (1)	I	—
C	—	—	—	Not Occupied	—	—
D	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
E	0.5	L-GN/YE	3212	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (1)	I	—

B52F Heated Oxygen Sensor - Bank 2 Sensor 2



Connector Part Information

Harness Type: Engine

OEM Connector: 13815348

Service Connector: 13587298

Description: 4-Way F 1.2 MLK Series, Sealed (L-GY)

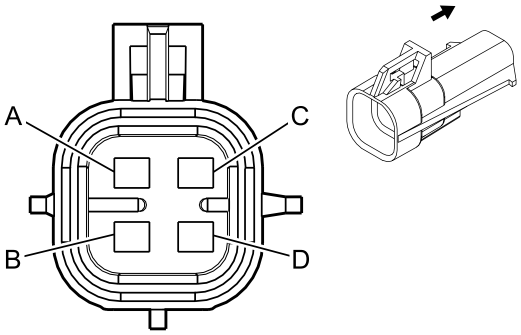
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B52F Heated Oxygen Sensor - Bank 2 Sensor 2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/BN	3223	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (2)	I	—
2	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—
3	0.5	YE/D-BU	3221	Heated Oxygen Sensor Low Signal Bank 2 Sensor (2)	I	—
4	0.5	VT/L-GN	3220	Heated Oxygen Sensor High Signal Bank 2 Sensor (2)	I	—

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L96 or LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15326423

Service Connector: 15306319

Description: 4-Way M 150 Metri-Pack Series, Sealed (GY)

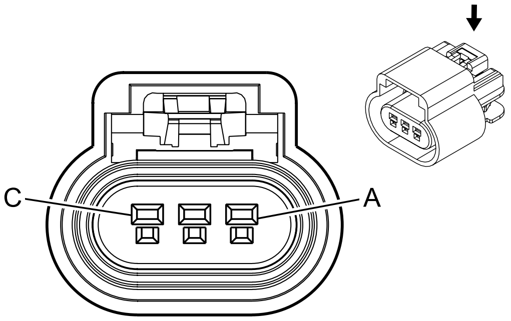
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B52F Heated Oxygen Sensor - Bank 2 Sensor 2 (L96 or LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	YE/D-BU	3221	Heated Oxygen Sensor Low Signal Bank 2 Sensor (2)	I	—
B	0.5	VT/L-GN	3220	Heated Oxygen Sensor High Signal Bank 2 Sensor (2)	I	—
C	0.5	WH/BN	3223	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (2)	I	—
D	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—

B55 Hood Ajar Switch



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13519047

Service Connector: 13580871

Description: 3-Way F 150 GT Series, Sealed (BK)

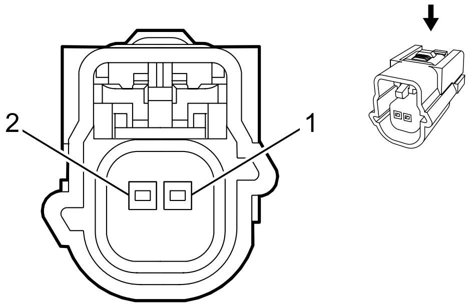
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B55 Hood Ajar Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	YE	5530	Hood Open Switch Signal	I	—
B	0.5	BN/L-GN	109	Hood Ajar Switch Signal	I	—
C	1	BK	250	Ground	I	—

B59L Front Impact Sensor - Left



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13593078

Service Connector: 13577629

Description: 2-Way F 0.64 Series, Sealed (L-GY)

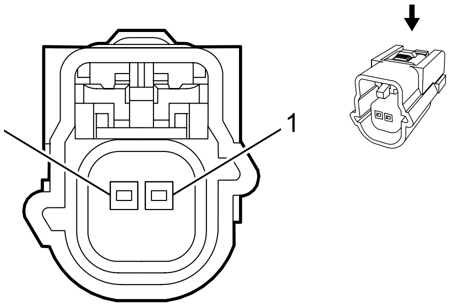
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B59L Front Impact Sensor - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/YE	354	Left Front Discriminating Sensor Signal	I	—
2	0.5	BK/OG	5045	Left Front Discriminating Sensor Low Reference	I	—

B59R Front Impact Sensor - Right



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13593078

Service Connector: 13577629

Description: 2-Way F 0.64 Series, Sealed (L-GY)

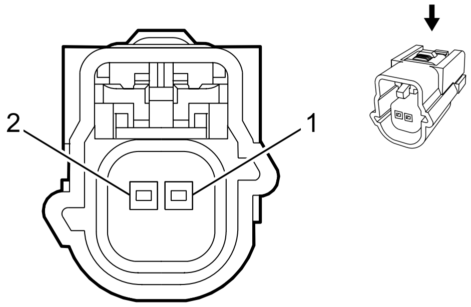
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B59R Front Impact Sensor - Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/L-GN	1409	Right Front Discriminating Sensor Signal	I	—
2	0.5	BK/OG	5600	Right Front Discriminating Sensor Low Reference	I	—

B59 Front Impact Sensor



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13593078

Service Connector: 13577629

Description: 2-Way F 0.64 Series, Sealed (L-GY)

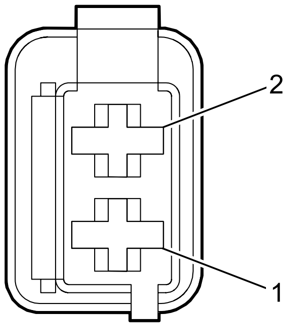
Terminal Part Information

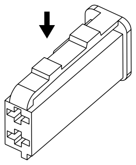
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B59 Front Impact Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/GY	6618	Middle Front Discriminating Sensor Signal	I	—
2	0.5	BK/OG	6619	Middle Front Discriminating Sensor Low Reference	I	—

B60 Passenger Presence Sensor





Connector Part Information

Harness Type: Body

OEM Connector: 13670097

Service Connector: 13580951

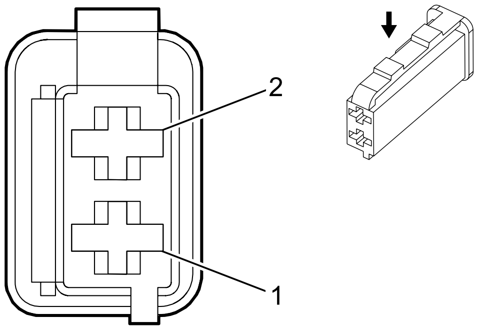
Description: 2-Way F 1.6 Timer Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B60 Passenger Presence Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/RD	5612	Passenger Seat Belt Tension Sensor 5 Volt Reference	I	—
2	0.35	VT/OG	5611	Passenger Seat Belt Tension Sensor Signal	I	—



Connector Part Information

Harness Type: Body

OEM Connector: 13670097

Service Connector: 13580951

Description: 2-Way F 1.6 Timer Series (BK)

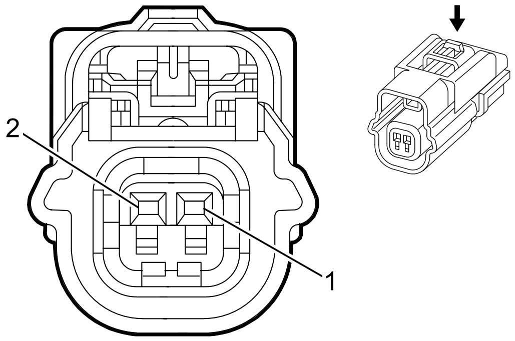
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-14 (GN)	Not Available	Not Available	Not Available	Not Available	Not Available

B61P Seat Belt Tension Sensor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/RD	5612	Passenger Seat Belt Tension Sensor Voltage Reference	I	-
2	0.35	VT/OG	5611	Passenger Seat Belt Tension Sensor Signal	I	-

B62D Seat Position Sensor - Driver



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 54390239

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F Kaizen 64 Series, Sealed (BK)

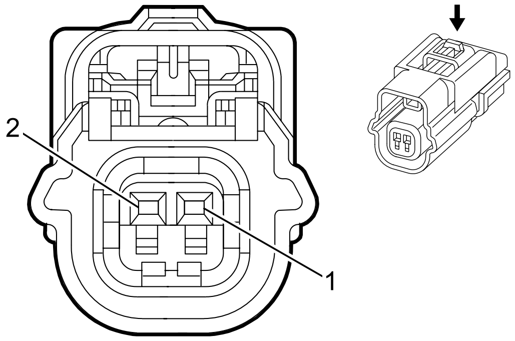
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B62D Seat Position Sensor - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/OR	1363	Driver Seat Belt Switch Low Reference	I	—
2	0.35	OR/L-GN	5055	Driver Seat Position Switch Signal	I	—

B62P Seat Position Sensor - Passenger



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 54390239

Service Connector: Service by Harness - See Part Catalog

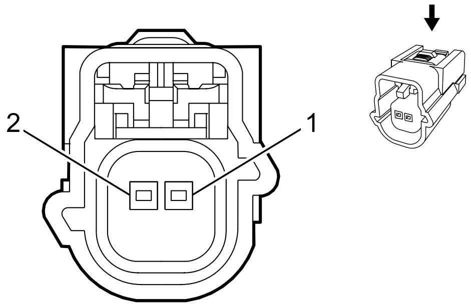
Description: 2-Way F Kaizen 64 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B62P Seat Position Sensor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/OR	1361	Passenger Seat Belt Switch Low Reference	I	—
2	0.35	OR/L-BU	5056	Passenger Seat Position Switch Signal	I	—



Connector Part Information

Harness Type: Driver Door

OEM Connector: 13593078

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 0.64 Series, Sealed (L-GY)

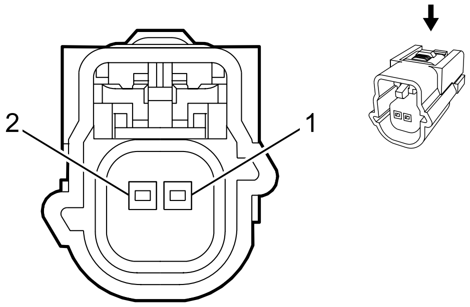
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B63LF Side Impact Sensor - Left Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/L-GN	2132	Left Front Side Impact Sensing Module Signal	I	—
2	0.5	BK/OG	6628	Left Front Side Impact Sensing Module Low Reference	I	—

B63LR Side Impact Sensor - Left Rear



Connector Part Information

Harness Type: Left Rear Door

OEM Connector: 13610095

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 0.64 Series, Sealed (D-GY)

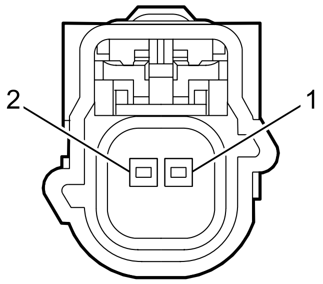
Terminal Part Information

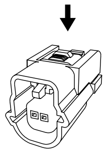
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B63LR Side Impact Sensor - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/D-BU	6620	Left Middle Side Impact Sensing Module Signal	I	—
2	0.5	BK/OG	6621	Left Middle Side Impact Sensing Module Low Reference	I	—

B63RF Side Impact Sensor - Right Front





Connector Part Information

Harness Type: Passenger Door

OEM Connector: 13593078

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 0.64 Series, Sealed (L-GY)

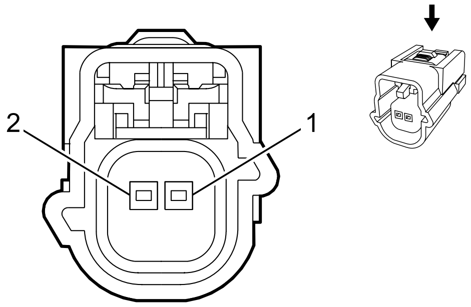
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B63RF Side Impact Sensor - Right Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/L-GN	2134	Right Front Side Impact Sensing Module Signal	I	—
2	0.5	BK/OG	6629	Right Front Side Impact Sensing Module Low Reference	I	—

B63RR Side Impact Sensor - Right Rear



Connector Part Information

Harness Type: Right Rear Door

OEM Connector: 13610095

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 0.64 Series, Sealed (D-GY)

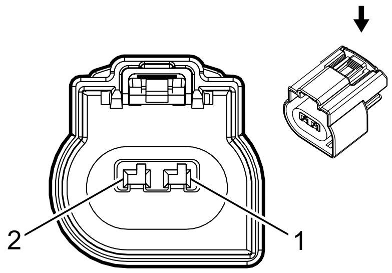
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B63RR Side Impact Sensor - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG/VT	6624	Right Middle Side Impact Sensing Module Signal	I	—
2	0.5	BK/OG	6625	Right Middle Side Impact Sensing Module Low Reference	I	—

B68A Knock Sensor 1 (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13814755

Service Connector: 19301207

Description: 2-Way F 150 MX Series, Sealed (BK)

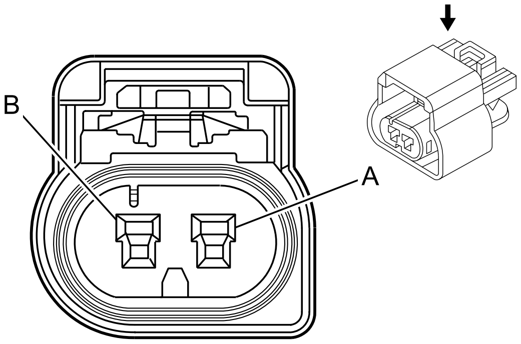
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B68A Knock Sensor 1 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	VT/GY	496	Knock Sensor Signal (1)	I	—
2	0.75	BK/YE	1716	Knock Sensor Low Reference (1)	I	—

B68A Knock Sensor 1 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15374222

Service Connector: 13580877

Description: 2-Way F 150 GT Series, Sealed (NA)

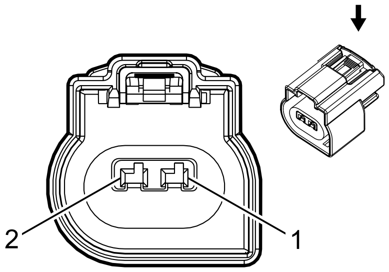
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B68A Knock Sensor 1 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	VT/GY	496	Knock Sensor Signal (1)	I	—
B	0.75	BK/YE	1716	Knock Sensor Low Reference (1)	I	—

B68B Knock Sensor 2 (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13814755

Service Connector: 19301207

Description: 2-Way F 150 MX Series, Sealed (BK)

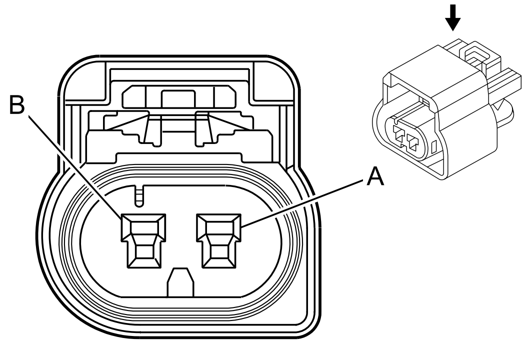
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B68B Knock Sensor 2 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/GY	1876	Knock Sensor Signal (2)	I	—
2	0.75	BK/GY	2303	Knock Sensor Low Reference (2)	I	—

B68B Knock Sensor 2 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15374222

Service Connector: 13580877

Description: 2-Way F 150 GT Series, Sealed (NA)

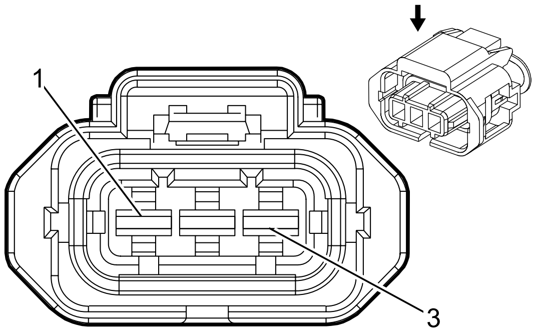
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B68B Knock Sensor 2 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	WH/GY	1876	Knock Sensor Signal (2)	I	—
B	0.75	BK/GY	2303	Knock Sensor Low Reference (2)	I	—

B74 Manifold Absolute Pressure Sensor (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 15397338

Service Connector: 13585845

Description: 3-Way F 2.8 Junior Power Timer Series, Sealed (BK)

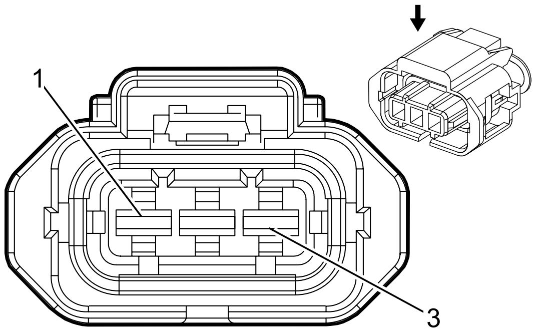
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

B74 Manifold Absolute Pressure Sensor (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/RD	2704	Manifold Absolute Pressure Sensor 5 Volt Reference	I	—
2	0.5	BK/L-GN	469	Manifold Absolute Pressure Sensor Low Reference	I	—
3	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	I	—

B74 Manifold Absolute Pressure Sensor (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 13639747

Service Connector: 19181248

Description: 3-Way F 2.8 Junior Power Timer Series, Sealed (BK)

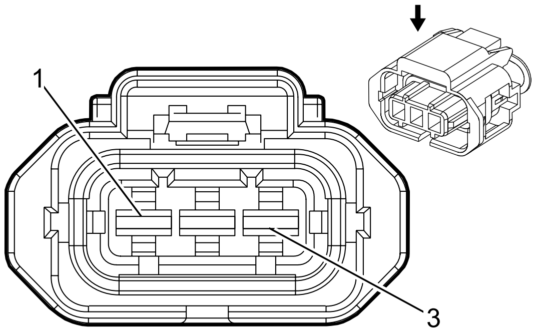
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

B74 Manifold Absolute Pressure Sensor (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/RD	2704	Manifold Absolute Pressure Sensor 5 Volt Reference	I	—
2	0.5	BK/L-GN	469	Manifold Absolute Pressure Sensor Low Reference	I	—
3	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	I	—

B74 Manifold Absolute Pressure Sensor (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 15345983

Service Connector: 13580231

Description: 3-Way F 2.8 Junior Power Timer Series, Sealed (GY)

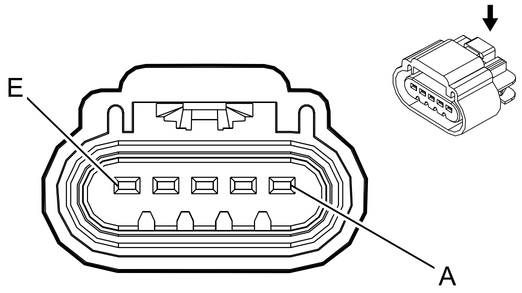
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

B74 Manifold Absolute Pressure Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY	2704	Manifold Absolute Pressure Sensor 5 Volt Reference	I	LML
2	0.5	OR/BK	469	Manifold Absolute Pressure Sensor Low Reference	I	LML
3	0.5	L-GN	432	Manifold Absolute Pressure Sensor Signal	I	LML

B75B Mass Air Flow/Intake Air Temperature Sensor (LML)



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13827319

Service Connector: 13579601

Description: 5-Way F 150 GT Series, Sealed (GY)

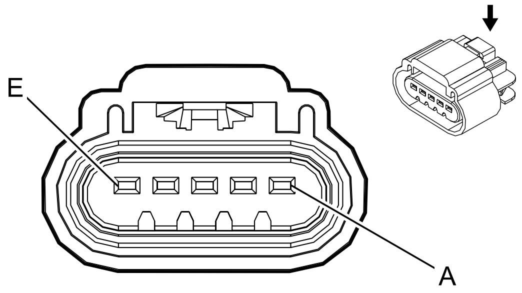
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B75B Mass Air Flow/Intake Air Temperature Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BK/D-BU	6288	Induction Air Temperature Sensor Low Reference	I	—
B	0.5	WH/D-BU	6289	Induction Air Temperature Sensor Signal	I	—
C	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	I	—
D	0.5	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
E	0.5	BK/GY	2931	Mass Air Flow Sensor Low Reference	I	—

B75B Mass Air Flow/Intake Air Temperature Sensor (L96)



Connector Part Information

Harness Type: Engine

OEM Connector: 13827319

Service Connector: 13579601

Description: 5-Way F 150 GT Series, Sealed (GY)

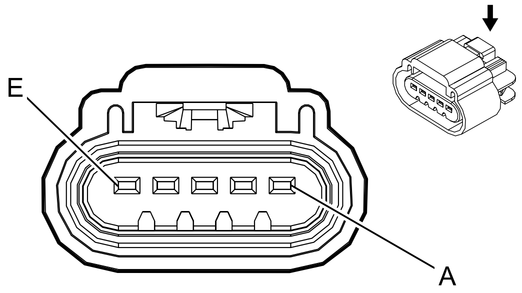
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B75B Mass Air Flow/Intake Air Temperature Sensor (L96)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BK/PU	2760	Intake Air Temperature Sensor Low Reference	I	—
B	0.5	WH/D-BU	6289	Induction Air Temperature Sensor Signal	I	—
C	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	I	—
D	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—
E	0.75	BK/WH	451	Signal Ground	I	—

B75B Mass Air Flow/Intake Air Temperature Sensor (LC8)



Connector Part Information

Harness Type: CNG

OEM Connector: 13519912

Service Connector: 13586116

Description: 5-Way F 150 GT Series, Sealed (D-GY)

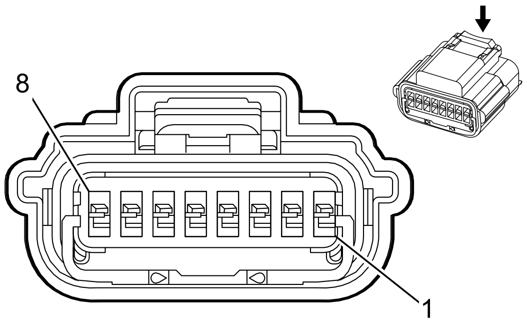
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	E	1

B75B Mass Air Flow/Intake Air Temperature Sensor (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BK	—	Intake Air Temperature Sensor Low Reference	I	—
B	0.5	TN/RD	—	Induction Air Temperature Sensor Signal	I	—
C	0.5	BK	—	Mass Air Flow Sensor Signal	I	—
D	0.5	BK	—	Powertrain Main Relay Fused Supply (4)	I	—
E	0.5	BK	—	Mass Air Flow Sensor Low Reference	I	—

B75C Multifunction Intake Air Sensor (except LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 13774439

Service Connector: 13583440

Description: 8-Way F 0.64 Series, Sealed (BK)

Terminal Part Information

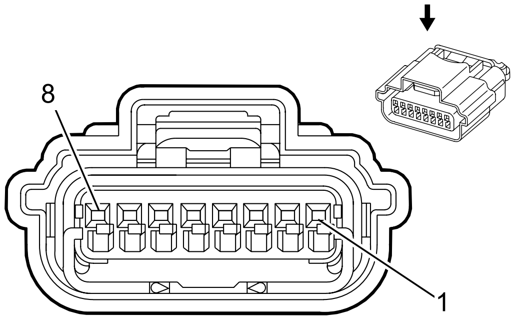
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B75C Multifunction Intake Air Sensor (except LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/D-BU	6289	Induction Air Temperature Sensor Signal	I	—
2	0.5	WH/RD	3201	Throttle Inlet Absolute Pressure Sensor 5 Volt Reference	I	—
3	0.5	BK/PU	2760	Intake Air Temperature Sensor Low Reference	I	—
	0.5	WH/YE	3202	Throttle Inlet Absolute Pressure Sensor Low Reference		—
4	0.5	YE/WH	3200	Throttle Inlet Absolute Pressure Sensor Signal	I	—
5	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—
6	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	I	—
7	0.75	BK/WH	451	Signal Ground	I	—

8	0.5	GY/D-BU	7564	Humidity Sensor Signal	I	—

B75C Multifunction Intake Air Sensor (LML)



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13913550

Service Connector: 19301584

Description: 8-Way F 0.64 Series, Sealed (BK)

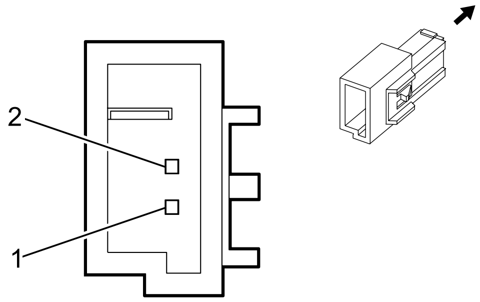
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B75C Multifunction Intake Air Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 4	—	—	—	Not Occupied	—	—
5	0.5	VT/D-BU	5290	Powertrain Main Relay Fused Supply (1)	I	—
6	—	—	—	Not Occupied	—	—
7	0.75	BK/WH	451	Signal Ground	I	—
8	0.75	GY/D-BU	7564	Humidity Sensor Signal	I	—

B77LF Radio Volume Compensator Interior Noise Microphone - Left Front



Connector Part Information

Harness Type: Headliner

OEM Connector: 13676029

Service Connector: 19260825

Description: 2-Way M 0.64 Series (BK)

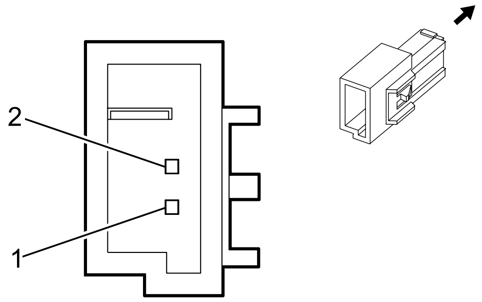
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-65B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B77LF Radio Volume Compensator Interior Noise Microphone - Left Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	L-GN/BK	3008	Noise Reduction Microphone 1 Low Reference	I	—
2	0.35	L-GN/WH	3005	Noise Reduction Microphone 1 Signal	I	—

B77R Radio Volume Compensator Interior Noise Microphone - Rear



Connector Part Information

Harness Type: Headliner

OEM Connector: 13676029

Service Connector: 19260825

Description: 2-Way M 0.64 Series (BK)

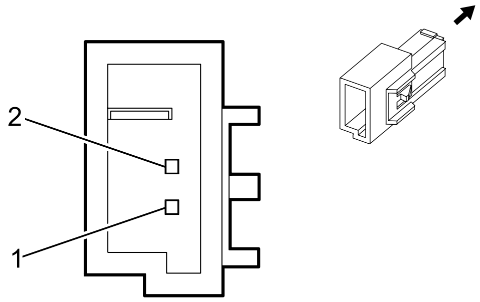
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-65B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B77R Radio Volume Compensator Interior Noise Microphone - Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/BN	3010	Noise Reduction Microphone 3 Low Reference	I	—
2	0.35	GY/D-BU	3007	Noise Reduction Microphone 3 Signal	I	—

B77RF Radio Volume Compensator Interior Noise Microphone - Right Front



Connector Part Information

Harness Type: Headliner

OEM Connector: 13676029

Service Connector: 19260825

Description: 2-Way M 0.64 Series (BK)

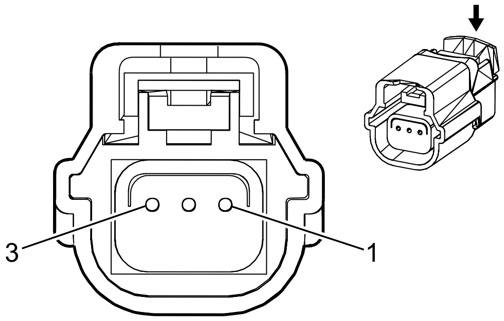
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-65B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B77RF Radio Volume Compensator Interior Noise Microphone - Right Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/BK	3009	Noise Reduction Microphone 2 Low Reference	I	—
2	0.35	D-BU/YE	3006	Noise Reduction Microphone 2 Signal	I	—

B78A Front Object Sensor - Left Outer



Connector Part Information

Harness Type: Front Bumper

OEM Connector: 13512481

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 0.64 Series, Sealed (BK)

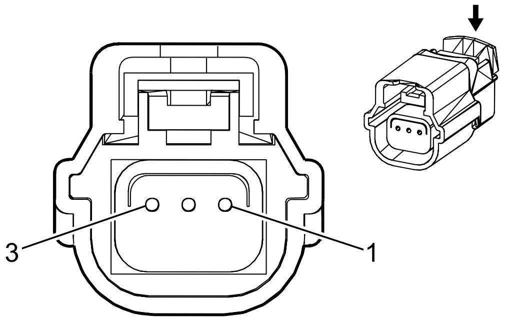
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B78A Front Object Sensor - Left Outer

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/L-GN	5213	Front Parking Left/Right/Mid Sensor	I	—
	0.5	YE/VT	5213			—
2	0.5	VT/WH	5215	Front Parking Left Corner Sensor	I	—
3	0.5	BK/D-BU	5214	Front Parking Sensor Low Reference	I	—

B78B Front Object Sensor - Right Outer



Connector Part Information

Harness Type: Front Bumper

OEM Connector: 13512481

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 0.64 Series, Sealed (BK)

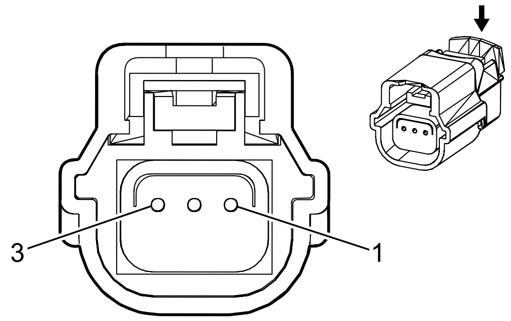
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B78B Front Object Sensor - Right Outer

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/L-GN	5213	Front Parking Left/Right/Mid Sensor	I	—
2	0.5	WH/GY	5217	Front Parking Right Corner Sensor	I	—
3	0.5	BK/D-BU	5214	Front Parking Sensor Low Reference	I	—

B78C Front Object Sensor - Left Middle



Connector Part Information

Harness Type: Front Bumper

OEM Connector: 13512481

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 0.64 Series, Sealed (BK)

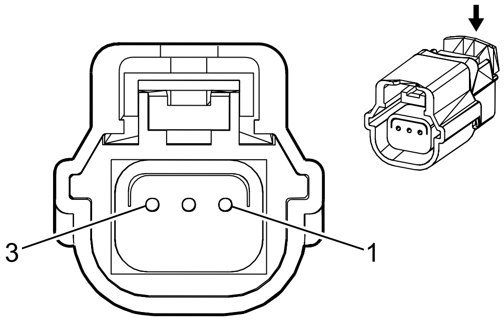
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B78C Front Object Sensor - Left Middle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/L-GN	5213	Front Parking Left/Right/Mid Sensor	I	—
2	0.5	YE/GY	5216	Front Parking Left Mid Sensor	I	—
3	0.5	BK/D-BU	5214	Front Parking Sensor Low Reference	I	—

B78D Front Object Sensor - Right Middle



Connector Part Information

Harness Type: Front Bumper

OEM Connector: 13512481

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 0.64 Series, Sealed (BK)

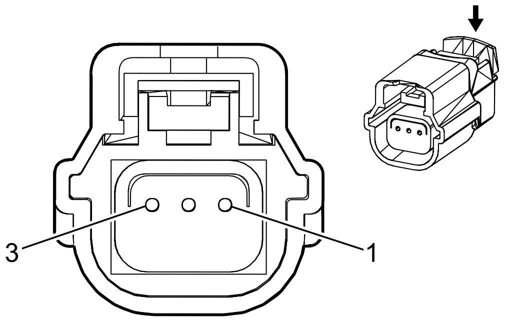
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B78D Front Object Sensor - Right Middle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/L-GN	5213	Front Parking Left/Right/Mid Sensor	I	—
2	0.5	VT/GY	5218	Front Parking Right Mid Sensor	I	—
3	0.5	BK/D-BU	5214	Front Parking Sensor Low Reference	I	—

B78E Rear Object Sensor - Left Middle



Connector Part Information

Harness Type: Rear Bumper

OEM Connector: 13512481

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 0.64 Series, Sealed (BK)

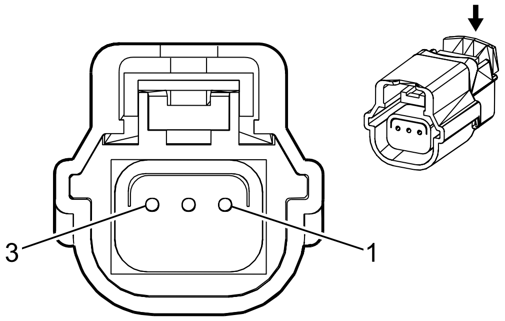
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B78E Rear Object Sensor - Left Middle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	2374	Object Sensor Control	I	—
2	0.5	YE/D-BU	2376	Left Rear Middle Object Sensor Signal	I	—
3	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

B78F Rear Object Sensor - Right Middle



Connector Part Information

Harness Type: Rear Bumper

OEM Connector: 13512481

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 0.64 Series, Sealed (BK)

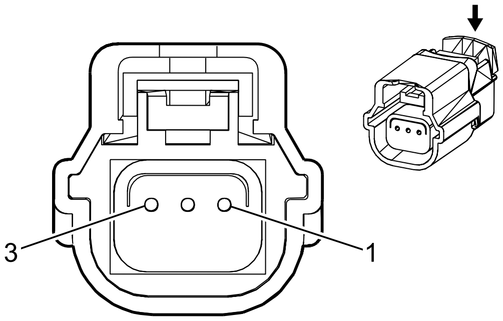
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B78F Rear Object Sensor - Right Middle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	2374	Object Sensor Control	I	—
2	0.5	YE/VT	2378	Right Rear Corner Object Sensor Signal	I	—
3	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

B78G Rear Object Sensor - Left Outer



Connector Part Information

Harness Type: Rear Bumper

OEM Connector: 13512481

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 0.64 Series, Sealed (BK)

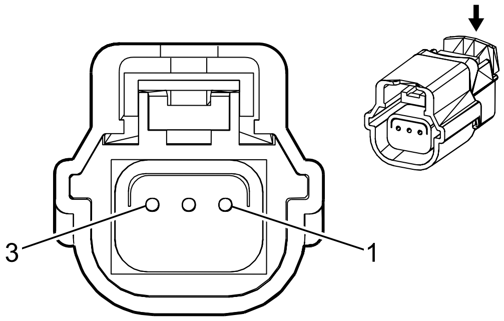
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B78G Rear Object Sensor - Left Outer

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	2374	Object Sensor Control	I	—
2	0.5	YE	2375	Left Rear Corner Object Sensor Signal	I	—
3	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

B78H Rear Object Sensor - Right Outer



Connector Part Information

Harness Type: Rear Bumper

OEM Connector: 13512481

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 0.64 Series, Sealed (BK)

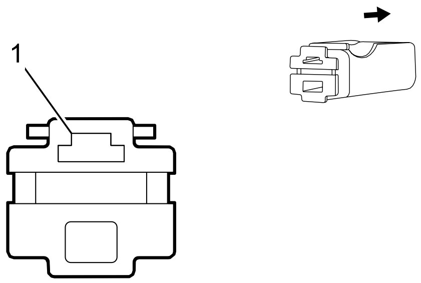
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B78H Rear Object Sensor - Right Outer

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	2374	Object Sensor Control	I	—
2	0.5	YE/WH	2377	Right Rear Middle Object Sensor Signal	I	—
3	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

B80 Park Brake Switch



Connector Part Information

Harness Type: Body

OEM Connector: 13511619

Service Connector: 88988465

Description: 1-Way F 250 Series (BK)

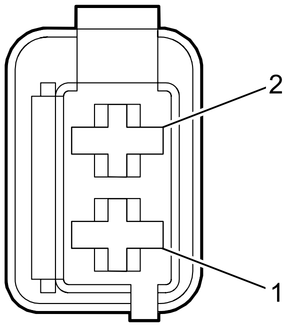
Terminal Part Information

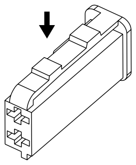
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required

B80 Park Brake Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	D-BU/VT	1134	Park Brake Switch Signal	I	—

B88D Seat Belt Switch - Driver





Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 1563189-1

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.6 Timer Series (BK)

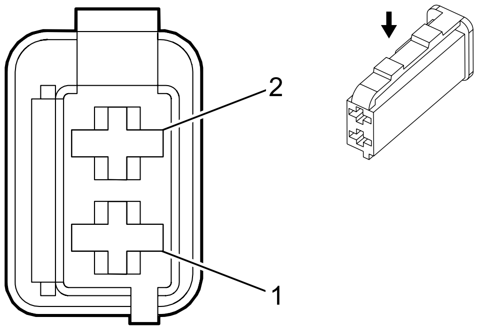
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B88D Seat Belt Switch - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/OR	1363	Driver Seat Belt Switch Low Reference	I	—
2	0.35	OR/BR	238	Driver Seat Belt Switch Signal	I	—

B88P Seat Belt Switch - Passenger



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 1563189-1

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.6 Timer Series (BK)

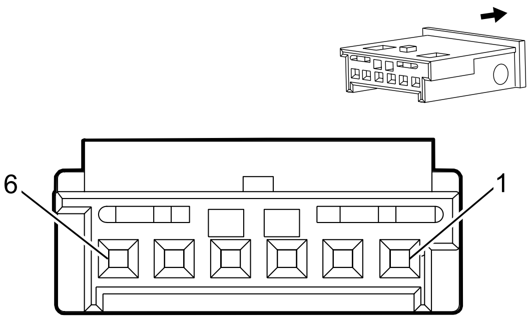
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B88P Seat Belt Switch - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/OR	1361	Passenger Seat Belt Switch Low Reference	I	—
2	0.35	OR/VT	1362	Passenger Seat Belt Switch Signal	I	—

B99 Steering Wheel Angle Sensor



Connector Part Information

Harness Type:

OEM Connector: 1-1241370-3

Service Connector: 13505903

Description: 6 F 0.64 Micro Quadlock Series (BK)

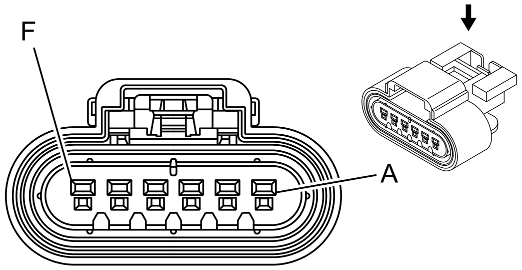
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

B99 Steering Wheel Angle Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	I	-
2	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	I	-
3	0.5	BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	I	-
4	0.5	BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	I	-
5	0.5	GN/BN	2087	Combined Vehicle Inertial Sensor Supply Voltage	I	-
6	0.5	BK/WH	1851	Signal Ground	I	-

B107 Accelerator Pedal Position Sensor



Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 15326830

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 150 GT Series, Sealed (BK)

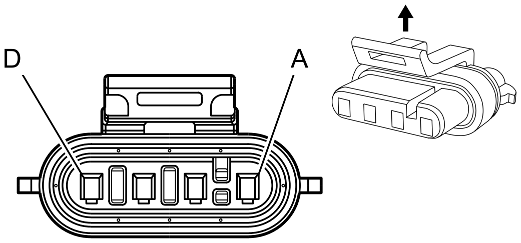
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B107 Accelerator Pedal Position Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.35	BK/VT	1272	Accelerator Pedal Position Low Reference (2)	I	—
B	0.35	L-GN/WH	1162	Accelerator Pedal Position Signal (2)	I	—
C	0.35	BN/RD	1274	Accelerator Pedal Position 5 Volt Reference (2)	I	—
D	0.35	WH/RD	1164	Accelerator Pedal Position 5 Volt Reference (1)	I	—
E	0.35	YE/WH	1161	Accelerator Pedal Position Signal (1)	I	—
F	0.35	BK/D-BU	1271	Accelerator Pedal Position Low Reference (1)	I	—

B112 Turbocharger Vane Position Sensor



Connector Part Information

Harness Type: Engine

OEM Connector: 12191366

Service Connector: 88988603

Description: 4-Way F 150 Metri-Pack Series, Sealed (L-GY)

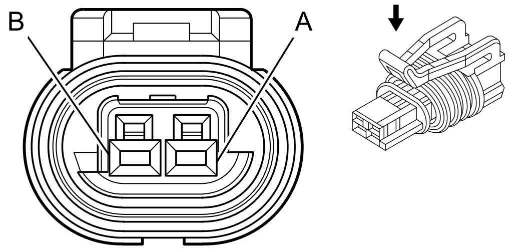
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B112 Turbocharger Vane Position Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	—	—	—	Not Occupied	—	—
B	0.5	YE	5947	Variable Nozzle Turbo Position Sensor Signal	I	LML
C	0.5	OR/BK	5929	Variable Nozzle Turbo Position Sensor Low Reference	I	LML
D	0.5	—	5928	Variable Nozzle Turbo Position Sensor 5 Volt Reference	I	LML

B115 Vehicle Speed Sensor (L83/L86/L8B)



Connector Part Information

Harness Type: Engine

OEM Connector: 15449028

Service Connector: 88987993

Description: 2-Way F 150 GT Series, Sealed (BK)

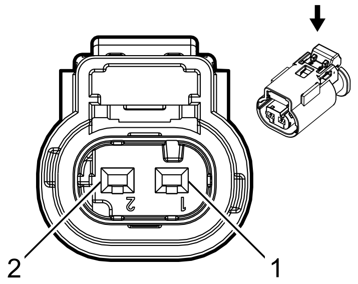
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B115 Vehicle Speed Sensor (L83/L86/L8B)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	VT/WH	821	Vehicle Speed Sensor Signal	I	—
	0.5	BK/L-GN	822	Vehicle Speed Sensor Low Reference		—
B	0.5	VT/WH	821	Vehicle Speed Sensor Signal	I	—
	0.5	BK/L-GN	822	Vehicle Speed Sensor Low Reference		—

B115 Vehicle Speed Sensor (LML)



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13735326

Service Connector: 13587326

Description: 2-Way F 1.2 MLK Series, Sealed (BK)

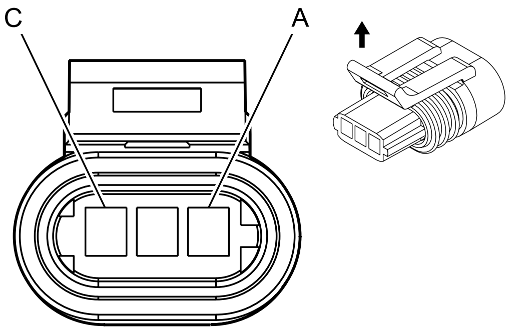
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B115 Vehicle Speed Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY/D-BU	6358	Output Speed Signal	I	—
2	0.75	YE/L-GN	4170	Transmission Position Sensor B 9 Volt Reference	I	—

B115 Vehicle Speed Sensor (MXW)



Connector Part Information

Harness Type: Engine

OEM Connector: 12162280

Service Connector: 12085538

Description: 3-Way F 150.2 Metri-Pack Pull To Seat Series, Sealed (GY)

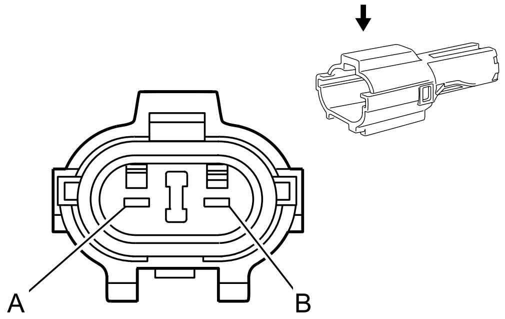
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B115 Vehicle Speed Sensor (MXW)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	GY/BK	3096	Output Speed (Digital) Sensor 5 Volt Reference	I	—
B	0.5	L-GN	3098	Output Speed (Digital) Signal	I	—
C	0.5	WH/BK	3097	Output Speed (Digital) Sensor Low Reference	I	—

B116 Water in Fuel Sensor



Connector Part Information

Harness Type: Engine

OEM Connector: 7322-1424-40

Service Connector: 94447499

Description: 2-Way F (L-GY)

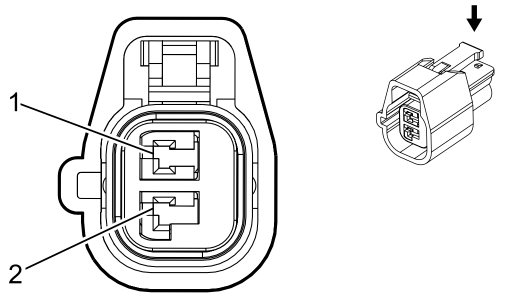
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-34 (YE)	Not Required	Not Required	Not Required	Not Required	Not Required

B116 Water in Fuel Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BU	6863	Water In Fuel Sensor Low Reference	I	LML
B	0.5	BU/YE	6861	Water In Fuel Sensor Signal	I	LML

B118B Windshield Washer Fluid Level Switch



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 33113086

Service Connector: 13593220

Description: 2-Way F 1.5 Series (L-GY)

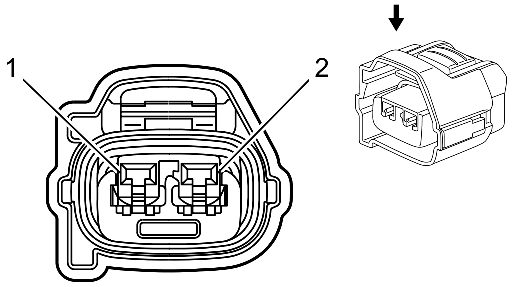
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B118B Windshield Washer Fluid Level Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT	185	Low Washer Fluid Indicator Control	I	—
2	0.5	BK	150	Ground	I	—

B130A Exhaust Gas Recirculation Temperature Sensor 1



Connector Part Information

Harness Type: Engine

OEM Connector: 7283-7020-10

Service Connector: 13576415

Description: 2-Way F 090 Series, Sealed (D-GY)

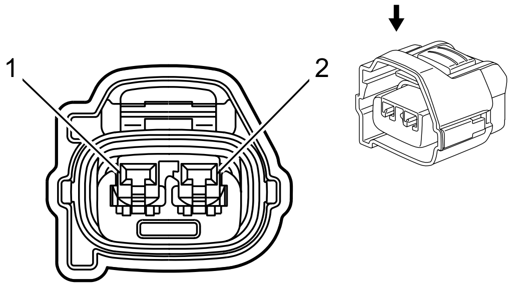
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-18 (BK)	Not Required	Not Required	Not Required	Not Required	Not Required

B130A Exhaust Gas Recirculation Temperature Sensor 1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/WH	7584	Exhaust Gas Recirculation Temperature Sensor 1 Control	I	LML
2	0.5	BR	6274	Exhaust Gas Recirculation Temperature Sensor Low Reference	I	LML

B130B Exhaust Gas Recirculation Temperature Sensor 2



Connector Part Information

Harness Type: Engine

OEM Connector: 7283-7020-10

Service Connector: 13576415

Description: 2-Way F 090 Series, Sealed (D-GY)

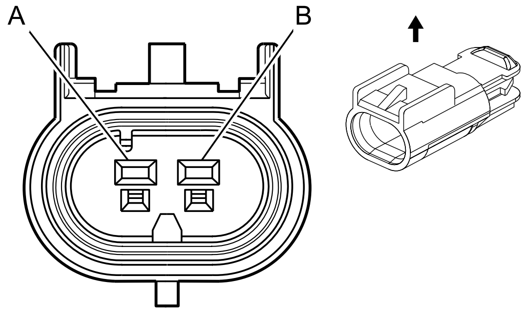
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-18 (BK)	Not Required	Not Required	Not Required	Not Required	Not Required

B130B Exhaust Gas Recirculation Temperature Sensor 2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BU	7583	Exhaust Gas Recirculation Temperature Sensor 2 Control	I	LML
2	0.5	WH	6275	Exhaust Gas Recirculation Temperature Sensor 2 Low Reference	I	LML

B131A Exhaust Temperature Sensor 1



Connector Part Information

Harness Type: Engine

OEM Connector: 13546698

Service Connector: 13580103

Description: 2-Way M 150 GT Series, Sealed (NA)

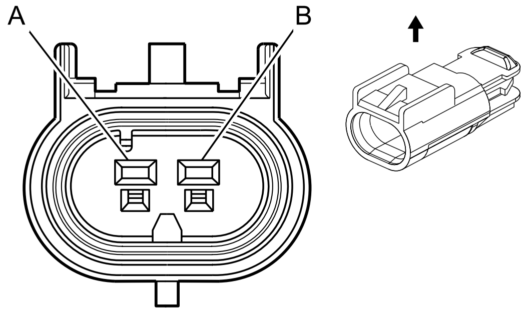
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B131A Exhaust Temperature Sensor 1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BU	5277	Exhaust Gas Temperature Sensor (1)	I	LML
B	0.5	BR	6782	Exhaust Gas Temperature Sensor 1 Low Reference	I	LML

B131B Exhaust Temperature Sensor 2



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13546698

Service Connector: 13580103

Description: 2-Way M 150 GT Series, Sealed (NA)

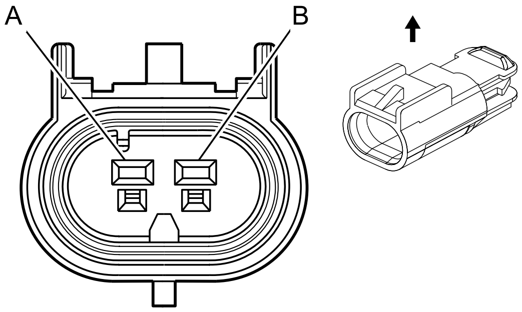
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B131B Exhaust Temperature Sensor 2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	D-BU/L-GN	5377	Exhaust Gas Temperature Sensor (2)	I	—
B	0.5	BK/D-BU	6783	Exhaust Gas Temperature Sensor 2 Low Reference	I	—

B131C Exhaust Temperature Sensor 3 (Regular Cab, Extended Cab or Crew Cab with Chassis Cab)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13546698

Service Connector: 13580103

Description: 2-Way M 150 GT Series, Sealed (NA)

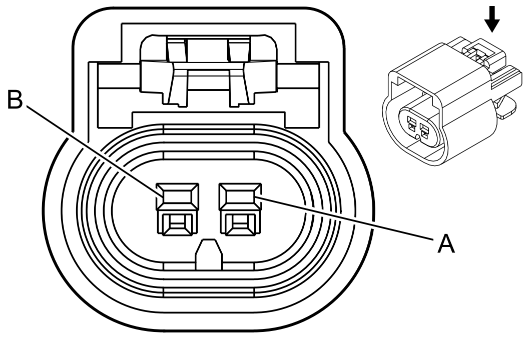
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B131C Exhaust Temperature Sensor 3 (Regular Cab, Extended Cab or Crew Cab with Chassis Cab)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	GY/L-GN	5378	Exhaust Gas Temperature Sensor (3)	I	—
B	0.5	BK/L-GN	3657	Exhaust Gas Temperature Sensor 3 Low Reference	I	—

B131C Exhaust Temperature Sensor 3 (Crew Cab except Chassis Cab)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13546696

Service Connector: 13580114

Description: 2-Way F 150 GT Series, Sealed (NA)

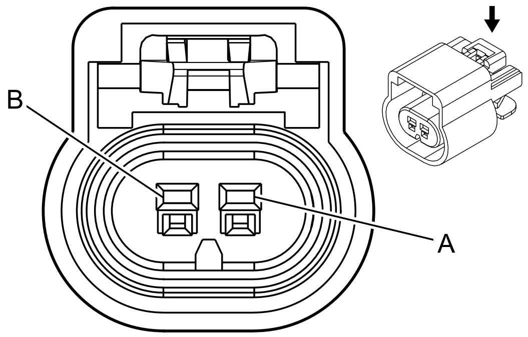
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B131C Exhaust Temperature Sensor 3 (Crew Cab except Chassis Cab)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	GY/L-GN	5378	Exhaust Gas Temperature Sensor (3)	I	—
B	0.5	BK/L-GN	3657	Exhaust Gas Temperature Sensor 3 Low Reference	I	—

B131D Exhaust Temperature Sensor 4 (Regular Cab, Extended Cab or Crew Cab except Chassis Cab)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13546696

Service Connector: 13580114

Description: 2-Way F 150 GT Series, Sealed (NA)

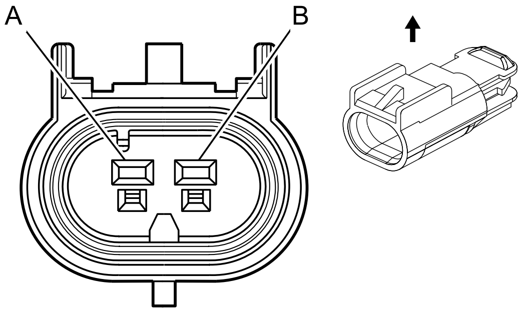
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B131D Exhaust Temperature Sensor 4 (Regular Cab, Extended Cab or Crew Cab except Chassis Cab)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	D-BU/GY	3660	Exhaust Gas Temperature Sensor 5 Signal	I	—
B	0.5	BK/VT	3661	Exhaust Gas Temperature Sensor 5 Low Reference	I	—

B131D Exhaust Temperature Sensor 4 (Crew Cab with Chassis Cab)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13546698

Service Connector: 13580103

Description: 2-Way M 150 GT Series, Sealed (NA)

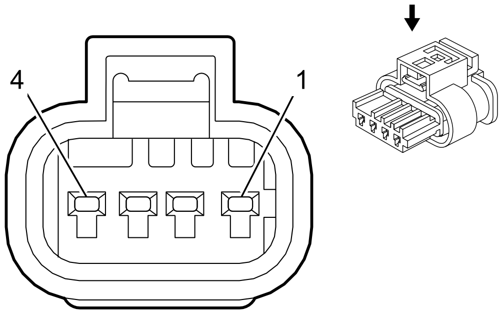
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

B131D Exhaust Temperature Sensor 4 (Crew Cab with Chassis Cab)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	D-BU/GY	3660	Exhaust Gas Temperature Sensor 5 Signal	I	—
B	0.5	BK/VT	3661	Exhaust Gas Temperature Sensor 5 Low Reference	I	—

B136 Exhaust Particulate Matter Sensor



Connector Part Information

Harness Type: Chassis

OEM Connector: 13781047

Service Connector: 13581092

Description: 4-Way F 1.2 Series, Sealed (BK)

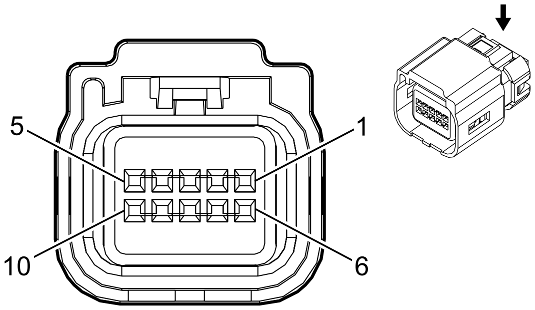
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

B136 Exhaust Particulate Matter Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	1750	Ground	I	—
2	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—
3	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—
4	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—

B137B Power Steering Shaft Torque/Position Sensor (1500)



Connector Part Information

Harness Type: Power Steering Jumper

OEM Connector: 28249221

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F 0.64 Kaizen Series, Sealed (BN)

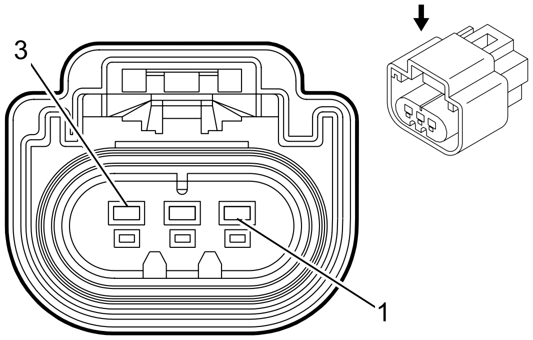
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

B137B Power Steering Shaft Torque/Position Sensor (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BU/GN	–	TRQ2 PWM Q2	I	-
2	0.5	TN	–	SDA	I	-
3	0.5	RD	–	5-Volt Reference	I	-
4	0.5	BK	–	Low Reference	I	-
5	0.5	WH	–	TRQ1 PWM Q1	I	-
6	0.5	VT	–	SCL	I	-
7	0.5	GN/BU	–	TOR IN 2	I	-
8	–	–	–	Not Occupied	–	-
9	0.5	GN	–	TOR IN 1	I	-
10	–	–	–	Not Occupied	–	-

B150 Fuel Tank Pressure Sensor



Connector Part Information

Harness Type: Chassis

OEM Connector: 13511996

Service Connector: 13580873

Description: 3-Way F 150 GT Series, Sealed (GY)

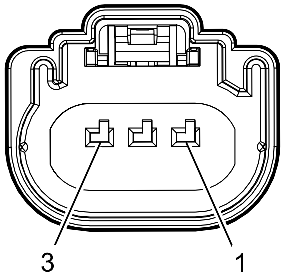
Terminal Part Information

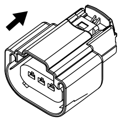
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B150 Fuel Tank Pressure Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/WH	890	Fuel Tank Pressure Sensor Signal	I	—
2	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	I	—
3	0.5	YE/RD	2709	Fuel Tank Pressure Sensor 5 Volt Reference	I	—

B152LF Suspension Position Sensor - Left Front (Z95)





Connector Part Information

Harness Type: Chassis

OEM Connector: 13873527

Service Connector: 19300594

Description: 3-Way F 1.5 Series, Sealed (GY)

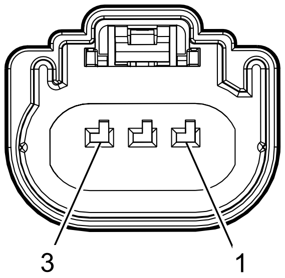
Terminal Part Information

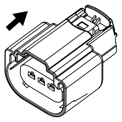
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

B152LF Suspension Position Sensor - Left Front (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/RD	1205	Left Front Strut Position Sensor 5 Volt Reference	I	—
2	0.5	BK/D-BU	1206	Left Front Strut Position Sensor Low Reference	I	—
3	0.5	BN/WH	1207	Left Front Strut Position Sensor Signal	I	—

B152LR Suspension Position Sensor - Left Rear (Z95)





Connector Part Information

Harness Type: Chassis

OEM Connector: 13873527

Service Connector: 19300594

Description: 3-Way F 1.5 Series, Sealed (GY)

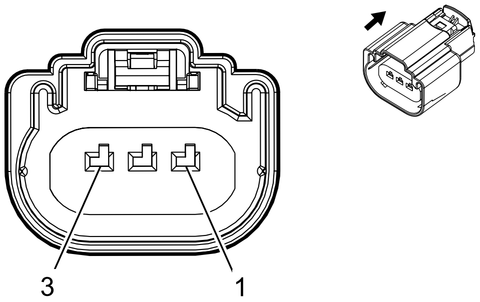
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

B152LR Suspension Position Sensor - Left Rear (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/RD	1208	Left Rear Strut Position Sensor 5 Volt Reference	I	—
2	0.5	BK/L-GN	1209	Left Rear Strut Position Sensor Low Reference	I	—
3	0.5	L-GN/WH	1210	Left Rear Strut Position Sensor Signal	I	—

B152RF Suspension Position Sensor - Right Front (Z95)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13873527

Service Connector: 19300594

Description: 3-Way F 1.5 Series, Sealed (GY)

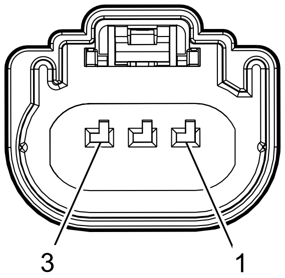
Terminal Part Information

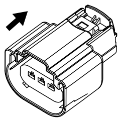
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

B152RF Suspension Position Sensor - Right Front (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/RD	1211	Right Front Strut Position Sensor 5 Volt Reference	I	—
2	0.5	BK/GY	1212	Right Front Strut Position Sensor Low Reference	I	—
3	0.5	YE/WH	1213	Right Front Strut Position Sensor Signal	I	—

B152RR Suspension Position Sensor - Right Rear (Z95)





Connector Part Information

Harness Type: Chassis

OEM Connector: 13873527

Service Connector: 19300594

Description: 3-Way F 1.5 Series, Sealed (GY)

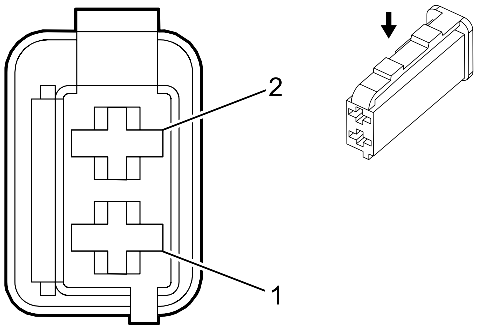
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

B152RR Suspension Position Sensor - Right Rear (Z95)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/RD	1214	Right Rear Strut Position Sensor 5 Volt Reference	I	—
2	0.5	BK/YE	1215	Right Rear Strut Position Sensor Low Reference	I	—
3	0.5	L-GN/GY	1216	Right Rear Strut Position Sensor Signal	I	—

B153D Seat Belt Buckle - Driver



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 1563189-1

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.6 Timer Series (BK)

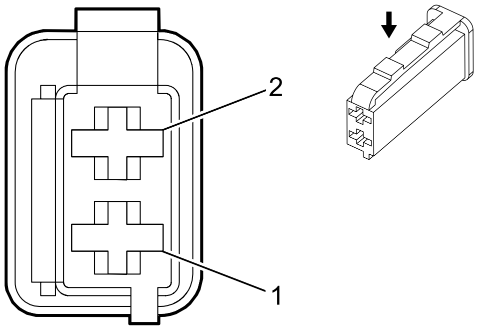
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-14 (GN)	Not Available	Not Available	Not Available	Not Available	Not Available

B153D Seat Belt Buckle - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/OG	1363	Driver Seat Belt Switch Low Reference	I	-
2	0.35	OG/BN	238	Driver Seat Belt Switch Signal	II	-

B153P Seat Belt Buckle - Passenger



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 1563189-1

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.6 Timer Series (BK)

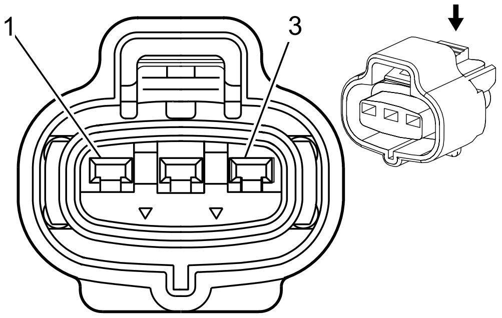
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-14 (GN)	Not Available	Not Available	Not Available	Not Available	Not Available

B153P Seat Belt Buckle - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/OG	1361	Passenger Seat Belt Switch Low Reference	I	-
2	0.35	OG/VT	1362	Passenger Seat Belt Switch Signal	II	-

B154 Diesel Particulate Filter Exhaust Differential Pressure Sensor



Connector Part Information

Harness Type: Chassis

OEM Connector: 15401052

Service Connector: 88953311

Description: 3-Way F 090 Series, Sealed (BK)

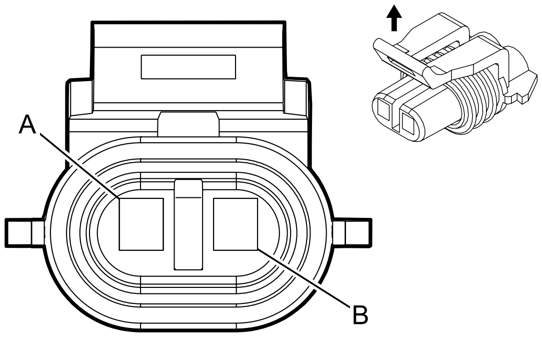
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-18 (BK)	Not Required	Not Required	Not Required	Not Required	Not Required

B154 Diesel Particulate Filter Exhaust Differential Pressure Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/YE	6055	Exhaust Pressure Sensor Low Reference (1)	I	—
2	0.5	D-BU	6053	Exhaust Pressure Sensor Signal (1)	I	—
3	0.5	WH/RD	6054	Exhaust Pressure Sensor 5 Volt Reference (1)	I	—

B181 Fuel Filter Pressure Sensor (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 12052641

Service Connector: 12102747

Description: 2-Way F 150 Metri Pack Series (BK)

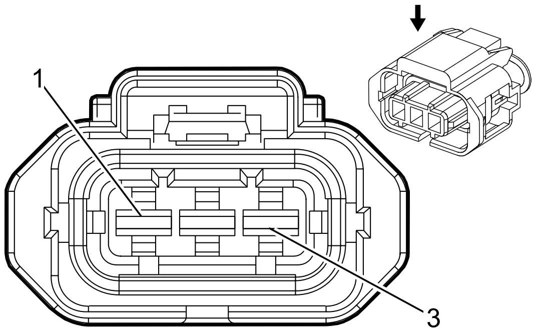
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-14 (GN)	Not Available	Not Available	Not Available	Not Available	Not Available

B181 Fuel Filter Pressure Sensor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.50F	GY/BK	5765	Fuel Filter Pressure Switch Signal	I	-
B	0.50F	BK	450	Ground	I	-

B192 Throttle Inlet Absolute Pressure Sensor (L96 or LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 13639747

Service Connector: 19181248

Description: 3-Way F 2.8 Junior Power Timer Series, Sealed (BK)

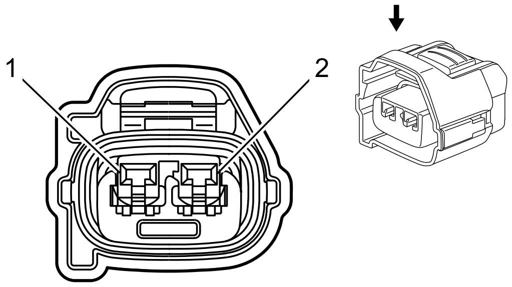
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

B192 Throttle Inlet Absolute Pressure Sensor (L96 or LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/RD	3201	Throttle Inlet Absolute Pressure Sensor 5 Volt Reference	I	—
2	0.5	WH/YE	3202	Throttle Inlet Absolute Pressure Sensor Low Reference	I	—
3	0.5	YE/WH	3200	Throttle Inlet Absolute Pressure Sensor Signal	I	—

B193A Charge Air Cooler Inlet Temperature Sensor



Connector Part Information

Harness Type: Engine

OEM Connector: 7283-7020-10

Service Connector: 13576415

Description: 2-Way F 090 Series, Sealed (D-GY)

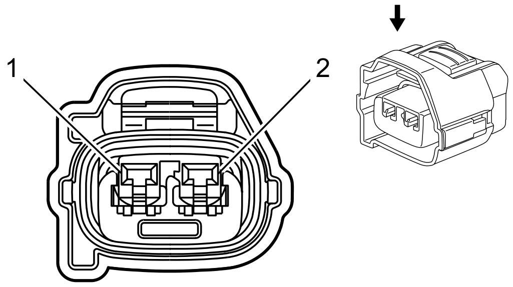
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-18 (BK)	Not Required	Not Required	Not Required	Not Required	Not Required

B193A Charge Air Cooler Inlet Temperature Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-GN	3683	Charge Air Cooler Inlet Temperature Sensor Signal	I	LML
2	0.5	—	3682	Charge Air Cooler Inlet Temperature Sensor Low Reference	I	LML

B193B Charge Air Cooler Outlet Temperature Sensor



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 15401053

Service Connector: 13576415

Description: 2-Way F 090 Series, Sealed (D-GY)

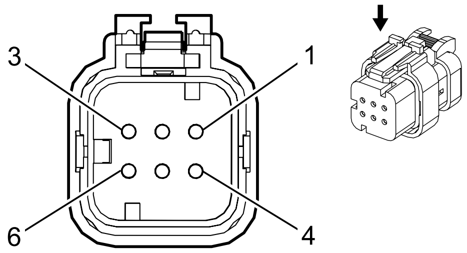
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-18 (BK)	Not Required	Not Required	Not Required	Not Required	Not Required

B193B Charge Air Cooler Outlet Temperature Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN	3681	Charge Air Cooler Outlet Temperature Sensor Signal	I	—
2	0.75	YE/D-BU	3680	Charge Air Cooler Outlet Temperature Sensor Low Reference	I	—

B195A Nitrogen Oxides Sensor 1



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13738257

Service Connector: 13578974

Description: 6-Way F 2.8 Series, Sealed (BK)

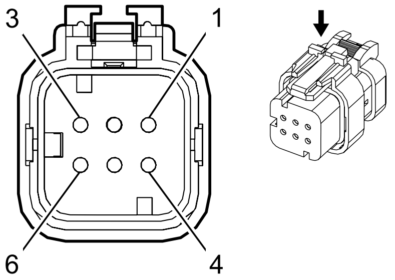
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-66 (YE)	Not Required	Not Required	Not Required	Not Required	Not Required

B195A Nitrogen Oxides Sensor 1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	VT/D-BU	3674	Nox Sensor (1) Control	II	—
2	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—
3	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—
4	1.5	BK/D-BU	3673	Nox Sensor (1) Ground	II	—
5	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—
6	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—

B195B Nitrogen Oxides Sensor 2



Connector Part Information

Harness Type: Chassis

OEM Connector: 13734132

Service Connector: 13579574

Description: 6-Way F (BK)

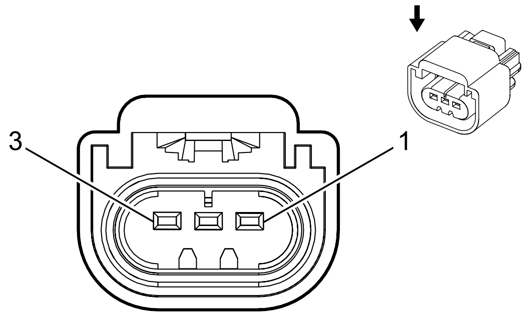
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

B195B Nitrogen Oxides Sensor 2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY	3672	Nox Sensor (2) Control	I	—
2	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—
3	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—
4	0.75	BK/GY	3671	Nox Sensor (2) Ground	I	—
5 - 6	—	—	—	Not Occupied	—	—

B198 Fuel Composition Sensor (1500)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13511132

Service Connector: 19301582

Description: 3-Way F 150 GT Series, Sealed (BN)

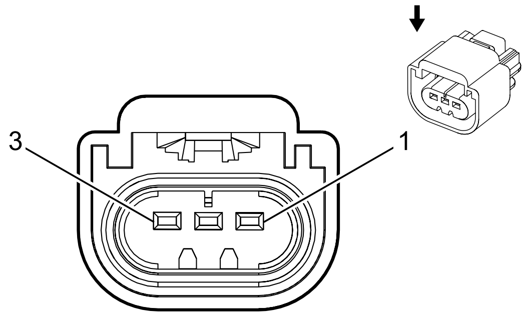
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B198 Fuel Composition Sensor (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—
2	0.5	BK	2150	Ground	I	—
3	0.5	WH	1579	Fuel Temperature/Composition Signal	I	—

B198 Fuel Composition Sensor (2500/3500)



Connector Part Information

Harness Type: Flex Fuel Sensor

OEM Connector: 13511132

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 150 GT Series, Sealed (BN)

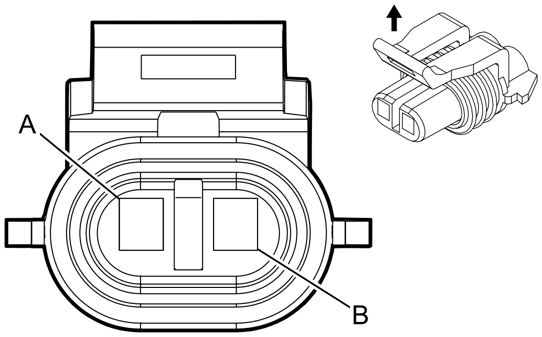
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B198 Fuel Composition Sensor (2500/3500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/D-BU	5294	Powertrain Main Relay Fused Supply (5)	I	—
2	0.5	BK	1350	Ground	I	—
3	0.5	WH	1579	Fuel Temperature/Composition Signal	I	—

B215 Fuel Filter Pressure Switch



Connector Part Information

Harness Type: Engine

OEM Connector: 12052641

Service Connector: 13586114

Description: 2-Way F 150 Metri-Pack Series (BK)

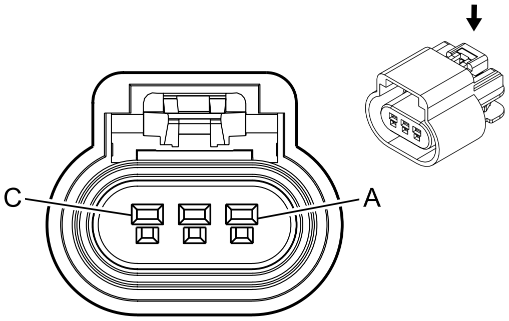
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B215 Fuel Filter Pressure Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	GY/BK	5765	Fuel Filter Pressure Switch Signal	I	LML
B	0.5	BK	450	Ground	I	LML

B227 Gear Position Sensor



Connector Part Information

Harness Type: Engine

OEM Connector: 15326808

Service Connector: 13580871

Description: 3-Way F 150 GT Series, Sealed (BK)

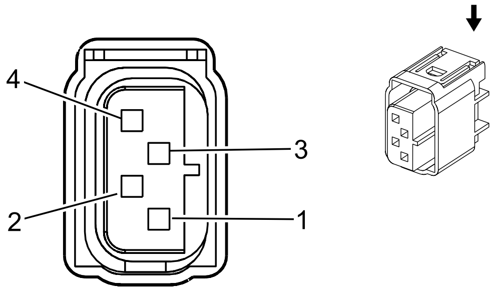
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B227 Gear Position Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	YE/BK	7478	Rotary Position Sensor Low Reference	I	—
B	0.5	WH/RD	7477	Rotary Position Sensor 5 Volt Reference	I	—
C	0.5	WH/L-GN	7479	Rotary Position Sensor Signal	I	—

B229 Alternative Fuel Rail Pressure/Temperature Sensor (LC8)



Connector Part Information

Harness Type: CNG Engine

OEM Connector: 1-967640-1

Service Connector: 13585332

Description: 4-Way F 0.64 Micro-Quadlock Series, Sealed (BK)

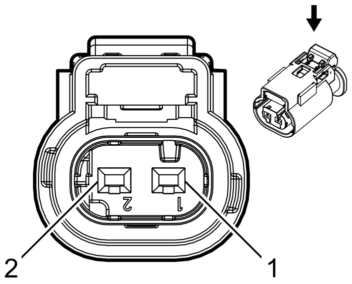
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	J-38125-12A	962885-5	15	6	6

B229 Alternative Fuel Rail Pressure/Temperature Sensor (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	—	Ground	I	-
2	0.5	BU/GN	—	Alternative Fuel Pressure Sensor Signal	I	-
3	0.5	BU/BK	—	Temperature Sensor Signal	I	-
4	0.5	RD/WH	—	5–Volt Reference	I	-

B235 Starter/Generator Coolant Temperature Sensor



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13735326

Service Connector: 13587326

Description: 2-Way F 1.2 MLK Series, Sealed (BK)

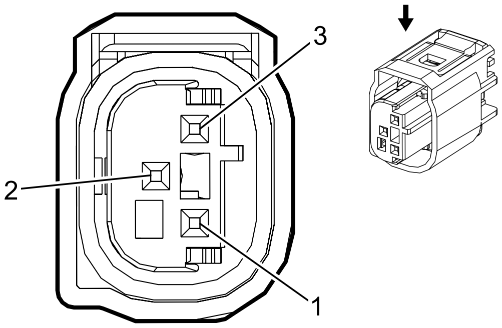
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

B235 Starter/Generator Coolant Temperature Sensor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/VT	3873	Powertrain Electronics Cooling Loop (PECL) Temperature Sensor Signal	I	—
2	0.5	BK/GY	3872	Powertrain Electronics Cooling Loop (PECL) Temperature Sensor Low Reference	I	—

B257 Alternative Fuel Pressure Sensor (LC8)



Connector Part Information

Harness Type: CNG

OEM Connector: 2-967642-1

Service Connector: 13584422

Description: 3-Way F MQS Socket Housing, Sealed (BK)

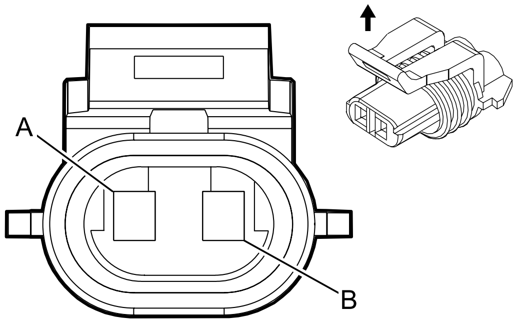
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	J-38125-11A	962885-5	15	6	6

B257 Alternative Fuel Pressure Sensor (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	—	Alternative Fuel Tank Sensor Low Reference	I	-
2	0.5	BU/YE	—	Alternative Fuel Tank Pressure Signal	I	-
3	0.5	RD/WH	—	Alternative Fuel Tank Sensore Voltage Reference	I	-

B263 Alternative Fuel Tank Temperature Sensor (LC8)



Connector Part Information

Harness Type: CNG

OEM Connector: 12052644

Service Connector: Service by Harness – See Part Catalog

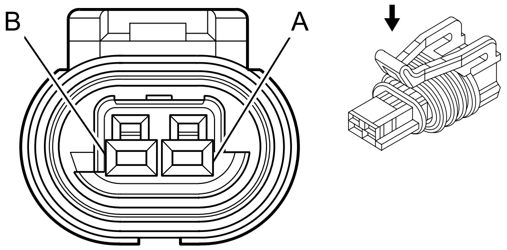
Description: 2-Way F 150 Metri-Pack Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-14 (GN)	J-38125-12A	12048074	2	E	1

B263 Alternative Fuel Tank Temperature Sensor (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	BU/RD	—	CNG Tank Sensor Temperature Signal	I	-
B	1	BK	—	Low Reference	I	-



Connector Part Information

Harness Type: CNG

OEM Connector: 15449028

Service Connector: 88987993

Description: 2-Way F 150 GT Series, Sealed (BK)

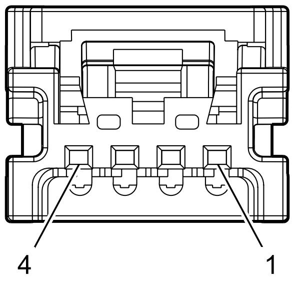
Terminal Part Information

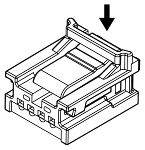
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	2	1

B264 CNG High Pressure Regulator Temperature Sensor (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	BU/OG	—	Coolant Temperature Input	I	-
B	1	BK	—	Ground	I	-

C5A Hybrid/EV Battery Module 1 X1





Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 33150383

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F Mini 50 Series (BK)

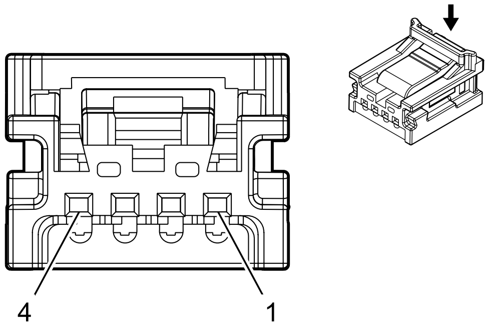
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

C5A Hybrid/EV Battery Module 1 X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH	1726	Battery Cell Sensing Serial Data (-) (3)	I	—
2	0.35	WH	1725	Battery Cell Sensing Serial Data (+) (3)	I	—
3	0.35	WH	1759	Battery Cell Sensing Serial Data (-) (4)	I	—
4	0.35	WH	1758	Battery Cell Sensing Serial Data (+) (4)	I	—

C5A Hybrid/EV Battery Module 1 X2



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 33150384

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F Mini 50 Series (GY)

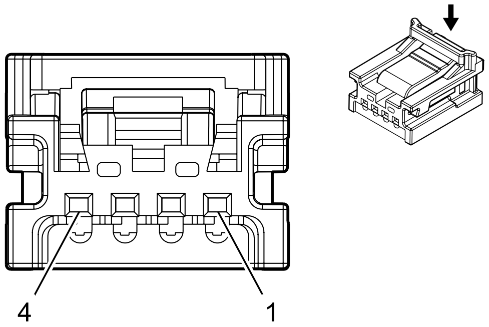
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

C5A Hybrid/EV Battery Module 1 X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH	1626	Battery Cell Sensing Serial Data (-) (2)	I	—
2	0.35	WH	1625	Battery Cell Sensing Serial Data (+) (2)	I	—
3	0.35	WH	1511	Battery Cell Sensing Serial Data (-) (1)	I	—
4	0.35	WH	1510	Battery Cell Sensing Serial Data (+) (1)	I	—

C5B Hybrid/EV Battery Module 2 X1



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 33150383

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F Mini 50 Series (BK)

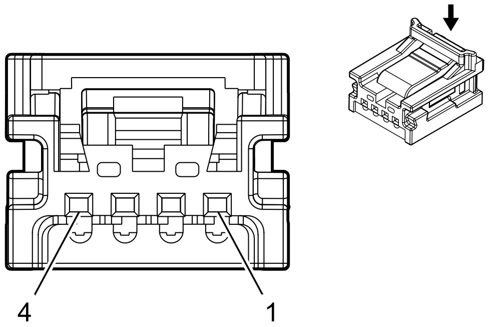
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

C5B Hybrid/EV Battery Module 2 X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH	1511	Battery Cell Sensing Serial Data (-) (1)	I	—
2	0.35	WH	1510	Battery Cell Sensing Serial Data (+) (1)	I	—
3	0.35	WH	1511	Battery Cell Sensing Serial Data (-) (1)	I	—
4	0.35	WH	1510	Battery Cell Sensing Serial Data (+) (1)	I	—

C5B Hybrid/EV Battery Module 2 X2



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 33150384

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F Mini 50 Series (GY)

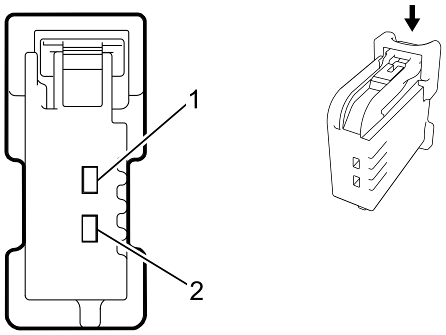
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

C5B Hybrid/EV Battery Module 2 X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH	1759	Battery Cell Sensing Serial Data (-) (4)	I	—
2	0.35	WH	1758	Battery Cell Sensing Serial Data (+) (4)	I	—
3	0.35	WH	1726	Battery Cell Sensing Serial Data (-) (3)	I	—
4	0.35	WH	1725	Battery Cell Sensing Serial Data (+) (3)	I	—

E1L Accent Lamp - Overhead Console



Connector Part Information

Harness Type: Overhead Console

OEM Connector: 13595207

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.5 Series (BK)

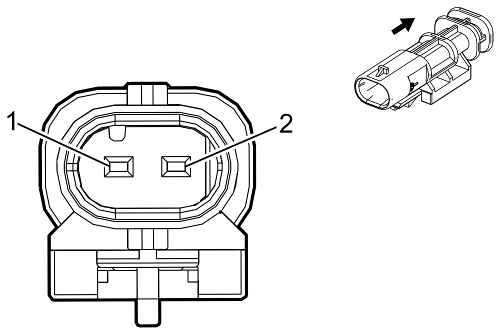
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

E1L Accent Lamp - Overhead Console

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT/L-GN	7558	LED Ambient Lighting Control 2	I	—
2	0.35	BK	1050	Ground	I	—

E2A Maker Lamp-Endgate



Connector Part Information

Harness Type: Rear Clearance Lamps

OEM Connector: 13788295

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 1.2 MLK Series, Sealed (BK)

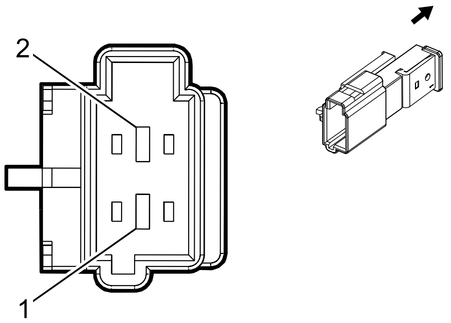
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-13 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E2A Maker Lamp-Endgate

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/BN	309	Right Park Lamp Control	I	—
2	0.5	BK	1750	Ground	I	—

E3B Roof Clearance Lamp - Left Front Inner



Connector Part Information

Harness Type: Right A-Pillar

OEM Connector: 13662506

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 1.6 Timer Series (BK)

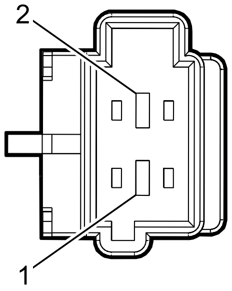
Terminal Part Information

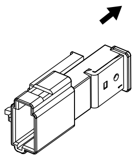
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-34 (YE)	Not Required	Not Required	Not Required	Not Required	Not Required

E3B Roof Clearance Lamp - Left Front Inner

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/GY	709	Left Park Lamp Control	I	—
2	0.5	BK	1050	Ground	I	—

E3A Roof Clearance Lamp - Left Front Outer





Connector Part Information

Harness Type: Right A-Pillar

OEM Connector: 13662506

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 1.6 Timer Series (BK)

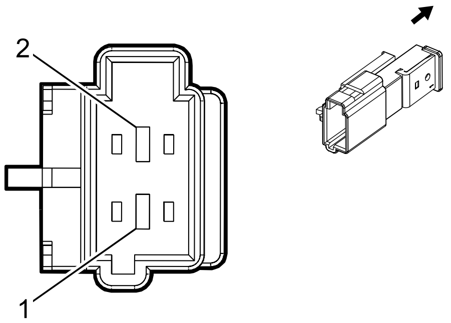
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-34 (YE)	Not Required	Not Required	Not Required	Not Required	Not Required

E3A Roof Clearance Lamp - Left Front Outer

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/GY	709	Left Park Lamp Control	I	—
2	0.5	BK	1050	Ground	I	—

E3E Roof Clearance Lamp - Right Front Outer (U01)



Connector Part Information

Harness Type: Right A-Pillar

OEM Connector: 13662506

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 1.6 Timer Series (BK)

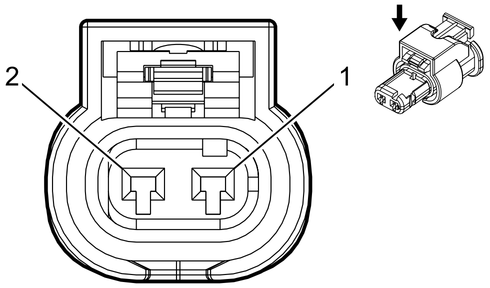
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-34 (YE)	No Tool Required	Not Required	Not Required	Not Required	Not Required

E3E Roof Clearance Lamp - Right Front Outer (U01)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/GY	709	Left Park Lamp Control	I	—
2	0.5	BK	1050	Ground	I	—

E3LF Rear Fender Clearance Lamp - Left Front (Dual Rear Wheel except ZW9)



Connector Part Information

Harness Type: Rear Clearance Lamps (Left) Jumper

OEM Connector: 13627836

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK)

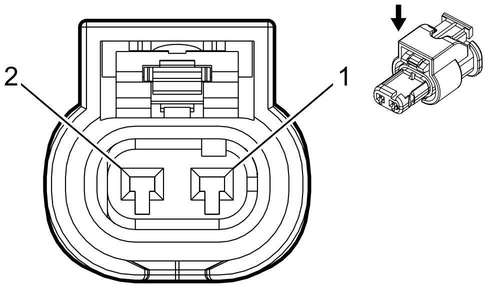
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

E3LF Rear Fender Clearance Lamp - Left Front (Dual Rear Wheel except ZW9)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/GY	709	Left Park Lamp Supply Voltage	I	-
2	0.5	BK	1750	Ground	I	-

E3LR Rear Fender Clearance Lamp - Left Rear (Dual Rear Wheel except ZW9)



Connector Part Information

Harness Type: Rear Clearance Lamps (Left) Jumper

OEM Connector: 13627836

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK)

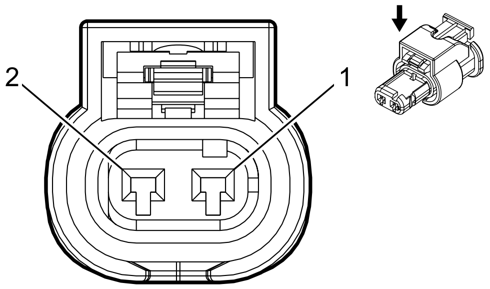
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

E3LR Rear Fender Clearance Lamp - Left Rear (Dual Rear Wheel except ZW9)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/GY	709	Left Park Lamp Supply Voltage	I	-
2	0.5	BK	1750	Ground	I	-

E3RF Rear Fender Clearance Lamp - Right Front



Connector Part Information

Harness Type: Rear Clearance Lamps

OEM Connector: 13627836

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK)

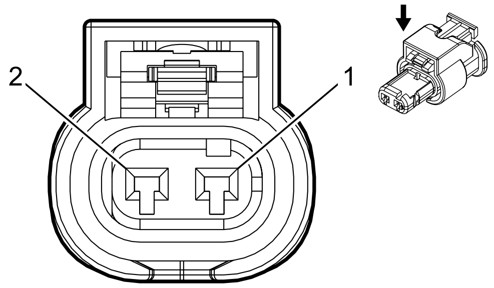
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E3RF Rear Fender Clearance Lamp - Right Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/BN	309	Right Park Lamp Control	I	—
2	0.5	BK	1750	Ground	I	—

E3RR Rear Fender Clearance Lamp - Right Rear



Connector Part Information

Harness Type: Rear Clearance Lamps

OEM Connector: 13627836

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK)

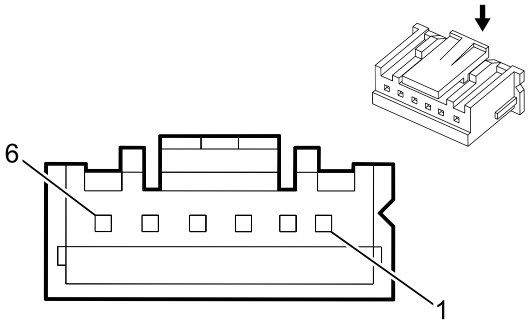
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E3RR Rear Fender Clearance Lamp - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/BN	309	Right Park Lamp Control	I	—
2	0.5	BK	1750	Ground	I	—

E4AC Park/Daytime Running Lamp - Left (Z88 with SLT)



Connector Part Information

Harness Type:

OEM Connector: PAP-06V-S

Service Connector: Service by Harness – See Part Catalog

Description: 6-Way 050 Series (NA)

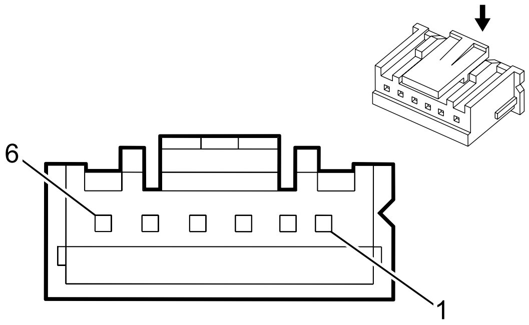
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4AC Park/Daytime Running Lamp - Left (Z88 with SLT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG	-	Park/DRL LED +	I	-
2	0.5	VT	-	Park/DRL LED -	I	-
3	0.5	PK	-	DRL CTN	I	-
4	0.5	L-GN	-	DRL BIN	I	-
5	0.5	L-BU	-	Ground	I	-
6	-	-	-	Not Occupied	-	-

E4AD Park/Daytime Running Lamp - Right (Z88 with SLT)



Connector Part Information

Harness Type:

OEM Connector: PAP-06V-S

Service Connector: Service by Harness – See Part Catalog

Description: 6 F 050 Series (NA)

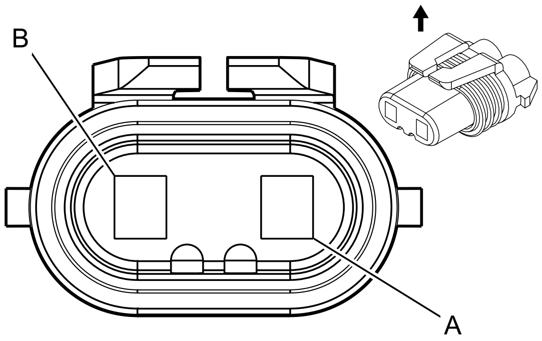
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4AD Park/Daytime Running Lamp - Right (Z88 with SLT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OG	-	Park/DRL LED +	I	Z88
2	0.5	VT	-	Park/DRL LED -	I	Z88
3	0.5	PK	-	DRL CTN	I	Z88
4	0.5	L-GN	-	DRL BIN	I	Z88
5	0.5	L-BU	-	Ground	I	Z88
6	-	-	-	Not Occupied	-	-

E4E Headlamp - Left High Beam (X88)



Connector Part Information

Harness Type: Left Headlamp

OEM Connector: 12059183

Service Connector: 12101898

Description: 2-Way F 2.0 Pitch Series (NA)

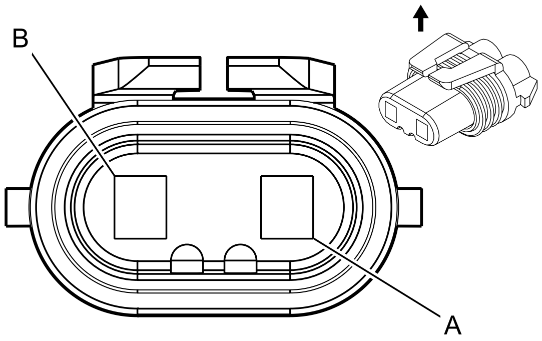
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4E Headlamp - Left High Beam (X88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH	711	Left Headlamp High Beam Supply Voltage	I	X88
B	0.75	BK	150	Ground	I	X88

E4F Headlamp - Right High Beam (X88)



Connector Part Information

Harness Type: Right Headlamp

OEM Connector: 12059183

Service Connector: 12101898

Description: 2-Way F 2.0 Pitch Series (NA)

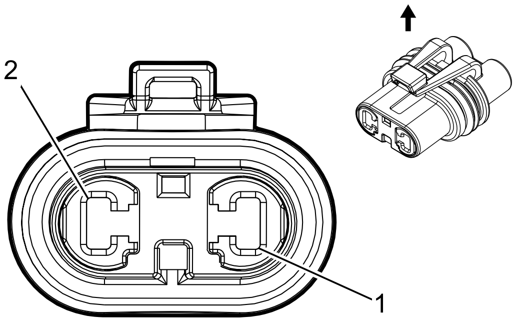
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4F Headlamp - Right High Beam (X88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH	311	Right Headlamp High Beam Supply Voltage	I	X88
B	0.75	BK	250	Ground	I	X88

E4G Headlamp – Left Low Beam



Connector Part Information

Harness Type:

OEM Connector: F412210

Service Connector: Service by Harness – See Part Catalog

Description: 2 F Sealed (BK)

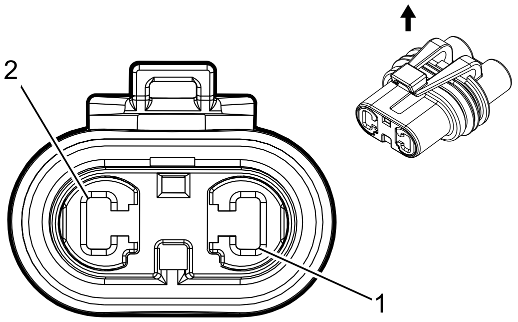
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4G Headlamp – Left Low Beam

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD	712	Left Headlamp Low Beam Supply Voltage	I	-
2	0.5	BK	150	Ground	I	-

E4H Headlamp – Right Low Beam



Connector Part Information

Harness Type:

OEM Connector: F412210

Service Connector: Service by Harness – See Part Catalog

Description: 2 F Sealed (BK)

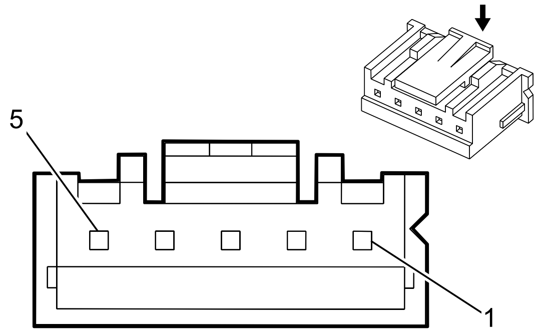
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4H Headlamp – Right Low Beam

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD	312	Right Headlamp Low Beam Supply Voltage	I	-
2	0.5	BK	250	Ground	I	-

E4J Park Lamp - Left Front (Z88 with SLT)



Connector Part Information

Harness Type:

OEM Connector: PAP-05V-S

Service Connector: Service by Harness – See Part Catalog

Description: 5 F 050 Series (NA)

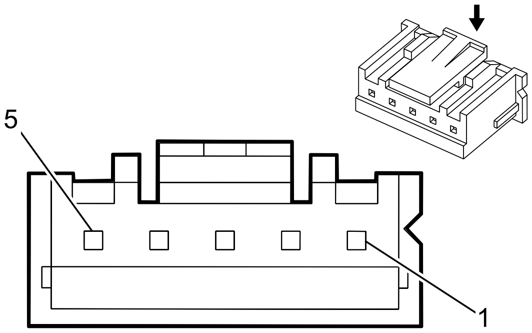
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4J Park Lamp - Left Front (Z88 with SLT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	-	Park Lamp LED +	I	Z88
2	0.5	RD	-	Park Lamp LED -	I	Z88
3	0.5	D-BU	-	Park Lamp CTN	I	Z88
4	0.5	D-GN	-	Park Lamp BIN	I	Z88
5	0.5	WH	-	Ground	I	Z88

E4K Park Lamp - Right Front (Z88 with SLT)



Connector Part Information

Harness Type:

OEM Connector: PAP-05V-S

Service Connector: Service by Harness – See Part Catalog

Description: 5 F 050 Series (NA)

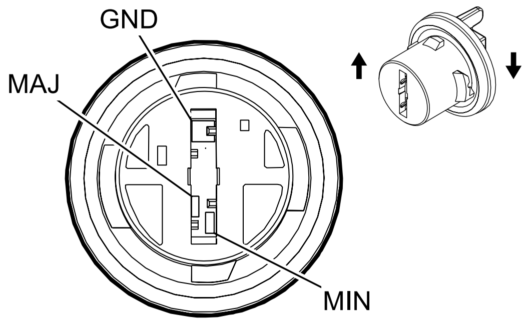
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4K Park Lamp - Right Front (Z88 with SLT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	-	Park Lamp LED +	I	Z88
2	0.5	RD	-	Park Lamp LED -	I	Z88
3	0.5	D-BU	-	Park Lamp CTN	I	Z88
4	0.5	D-GN	-	Park Lamp BIN	I	Z88
5	0.5	WH	-	Ground	I	Z88

E4N Park/Turn Signal Lamp – Left (Z88)



Connector Part Information

Harness Type: Left Headlamp

OEM Connector: EEM0383

Service Connector: Service by Harness – See Part Catalog

Description: 3-Way F Lamp Socket (BK)

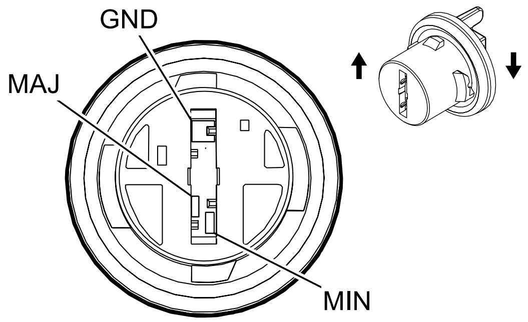
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4N Park/Turn Signal Lamp – Left (Z88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
GND	0.5	BK	150	Ground	I	-
MAJ	0.5	D-BU	1314	Left Front Turn Signal Lamp Supply Voltage	I	-
MIN	0.5	VT/GY	709	Left Park Lamp Supply Voltage	I	-

E4P Park/Turn Signal Lamp – Right (Z88)



Connector Part Information

Harness Type: Right Headlamp

OEM Connector: EEM0383

Service Connector: Service by Harness – See Part Catalog

Description: 3-Way F Lamp Socket (BK)

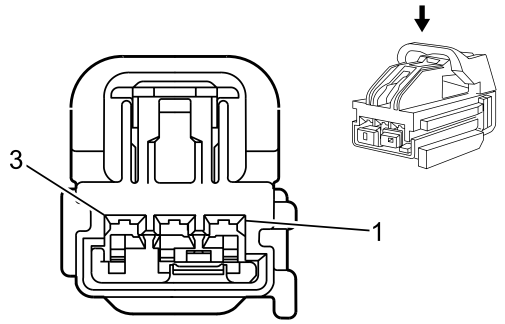
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E4P Park/Turn Signal Lamp – Right (Z88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
GND	0.5	BK	250	Ground	I	-
MAJ	0.5	D-BU	1315	Right Front Turn Signal Lamp Supply Voltage	I	-
MIN	0.5	VT/GY	309	Right Park Lamp Supply Voltage	I	-

E6 Center High Mounted Stop Lamp



Connector Part Information

Harness Type: Headliner

OEM Connector: 10847008

Service Connector: 19149536

Description: 3-Way F 1.5 Kaizen Series (L-GY)

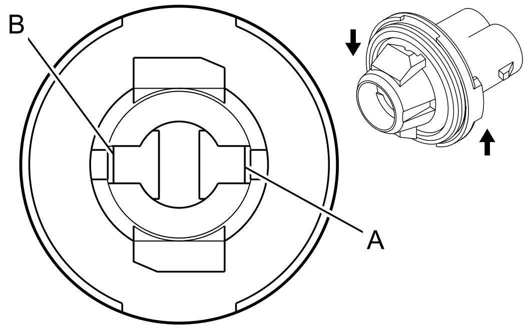
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

E6 Center High Mounted Stop Lamp

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/VT	1430	Exterior Courtesy Lamp Control	I	—
2	0.5	VT/GY	1054	Stop Lamp Control	I	—
3	0.5	BK	1050	Ground	I	—

E7L License Plate Lamp - Left



Connector Part Information

Harness Type: Rear Bumper

OEM Connector: 15324946

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F Lamp Socket Wedge Base W2 (D-GY)

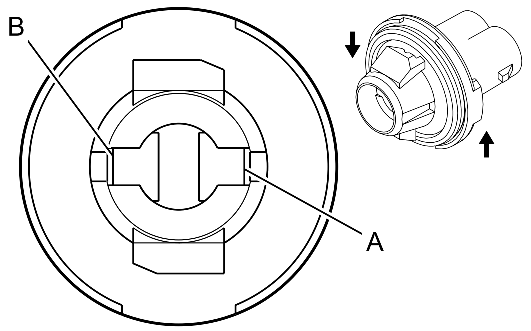
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	Not Required	Not Required	Not Required	Not Required	Not Required

E7L License Plate Lamp - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	L-GN/YE	6846	Rear License Lamp Control	I	—
B	0.5	BK	1750	Ground	I	—

E7R License Plate Lamp - Right



Connector Part Information

Harness Type: Rear Bumper

OEM Connector: 15324946

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F Lamp Socket Wedge Base W2 (D-GY)

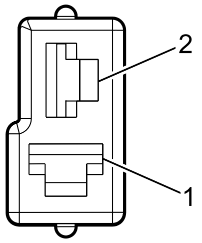
Terminal Part Information

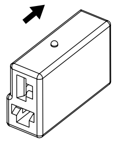
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	Not Required	Not Required	Not Required	Not Required	Not Required

E7R License Plate Lamp - Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	L-GN/YE	6846	Rear License Lamp Control	I	—
B	0.5	BK	1750	Ground	I	—

E8YD Outside Rearview Mirror Courtesy Lamp - Driver (DL3)





Connector Part Information

Harness Type: Outside Rearview - Driver

OEM Connector: MHFC502W

Service Connector: Service by Harness – See Part Catalog

Description: 2-Way F Fast In On 2.8 Series (WH)

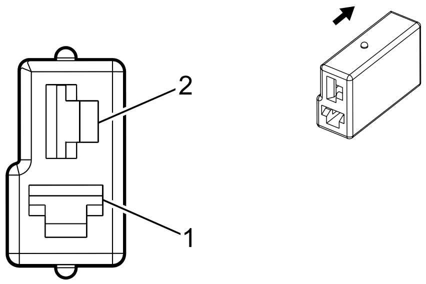
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E8YD Outside Rearview Mirror Courtesy Lamp - Driver (DL3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	OG/WH	5996	Driver Outside Rear View Mirror Puddle Lamp Supply Voltage	I	-
2	0.35	BK/WH	1150	Ground	I	-

E8YP Outside Rearview Mirror Courtesy Lamp - Passenger (DL3)



Connector Part Information

Harness Type: Outside Rearview - Passenger

OEM Connector: MHFC502W

Service Connector: Service by Harness – See Part Catalog

Description: 2-Way F Fast In On 2.8 Series (WH)

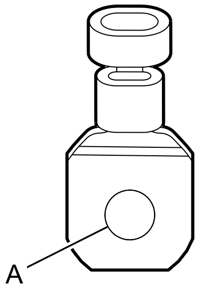
Terminal Part Information

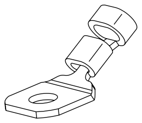
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E8YP Outside Rearview Mirror Courtesy Lamp - Passenger (DL3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	OG/WH	5996	Driver Outside Rear View Mirror Puddle Lamp Supply Voltage	I	-
2	0.35	BK/WH	1250	Ground	I	-

E12A Glow Plug 1





Connector Part Information

Harness Type: Engine

OEM Connector: 7009-1338-02

Service Connector: Service by Cable Assembly - See Part Catalog

Description: 1-Way Ring Terminal

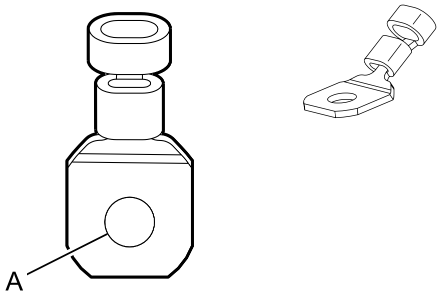
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	No Tool Required	Not Required	Not Required	Not Required	Not Required

E12A Glow Plug 1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	2	VT	1581	Glow Plug Control (1)	I	LML

E12B Glow Plug 2



Connector Part Information

Harness Type: Engine

OEM Connector: 7009-1338-02

Service Connector: Service by Cable Assembly - See Part Catalog

Description: 1-Way Ring Terminal

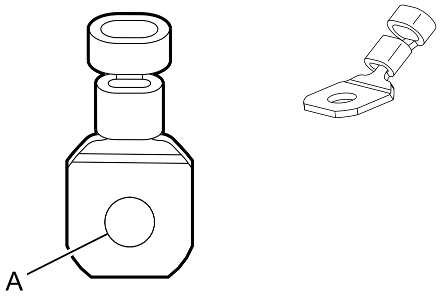
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	No Tool Required	Not Required	Not Required	Not Required	Not Required

E12B Glow Plug 2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	2	VT/WH	1582	Glow Plug Control (2)	I	LML

E12C Glow Plug 3



Connector Part Information

Harness Type: Engine

OEM Connector: 7009-1338-02

Service Connector: Service by Cable Assembly - See Part Catalog

Description: 1-Way Ring Terminal

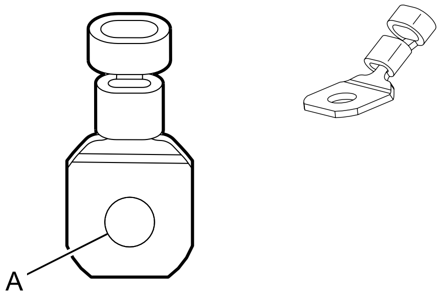
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	No Tool Required	Not Required	Not Required	Not Required	Not Required

E12C Glow Plug 3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	2	YE	1583	Glow Plug Control (3)	I	LML

E12D Glow Plug 4



Connector Part Information

Harness Type: Engine

OEM Connector: 7009-1338-02

Service Connector: Service by Cable Assembly - See Part Catalog

Description: 1-Way Ring Terminal

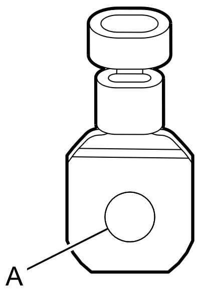
Terminal Part Information

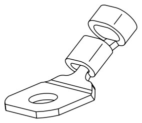
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	No Tool Required	Not Required	Not Required	Not Required	Not Required

E12D Glow Plug 4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	2	WH/YE	1584	Glow Plug Control (4)	I	LML

E12E Glow Plug 5





Connector Part Information

Harness Type: Engine

OEM Connector: 7009-1338-02

Service Connector: Service by Cable Assembly - See Part Catalog

Description: 1-Way Ring Terminal

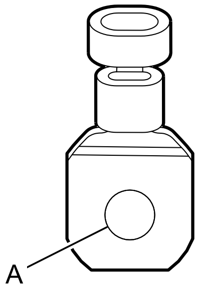
Terminal Part Information

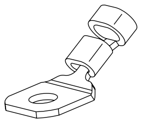
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	No Tool Required	Not Required	Not Required	Not Required	Not Required

E12E Glow Plug 5

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	2	GN	1585	Glow Plug Control (5)	I	LML

E12F Glow Plug 6





Connector Part Information

Harness Type: Engine

OEM Connector: 7009-1338-02

Service Connector: Service by Cable Assembly - See Part Catalog

Description: 1-Way Ring Terminal

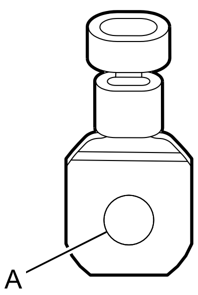
Terminal Part Information

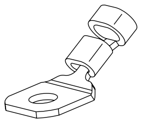
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	No Tool Required	Not Required	Not Required	Not Required	Not Required

E12F Glow Plug 6

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	2	GN/WH	1586	Glow Plug Control (6)	I	LML

E12G Glow Plug 7





Connector Part Information

Harness Type: Engine

OEM Connector: 7009-1338-02

Service Connector: Service by Cable Assembly - See Part Catalog

Description: 1-Way Ring Terminal

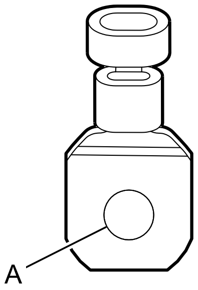
Terminal Part Information

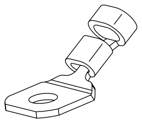
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	No Tool Required	Not Required	Not Required	Not Required	Not Required

E12G Glow Plug 7

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	2	PK	1587	Glow Plug Control (7)	I	LML

E12H Glow Plug 8





Connector Part Information

Harness Type: Engine

OEM Connector: 7009-1338-02

Service Connector: Service by Cable Assembly - See Part Catalog

Description: 1-Way Ring Terminal

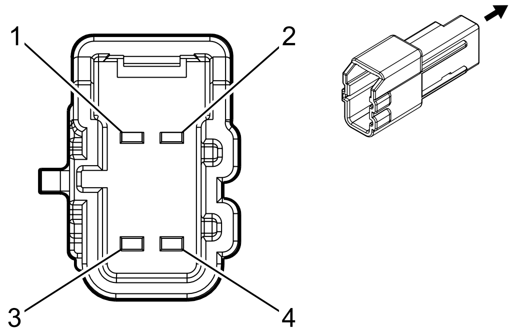
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	No Tool Required	Not Required	Not Required	Not Required	Not Required

E12H Glow Plug 8

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	2	PK/WH	1588	Glow Plug Control (8)	I	LML

E14A Seat Heating Element - Driver Back (KA1)



Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 6098-7781

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 1.2 Series (GY)

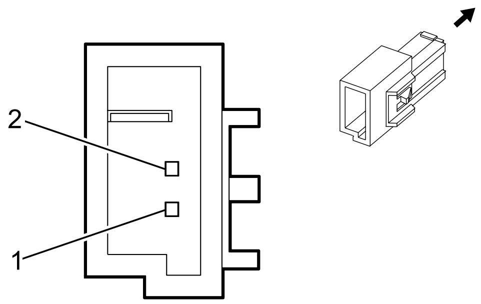
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-13 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E14A Seat Heating Element - Driver Back (KA1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BR	2432	Driver Heated Back Element Control	I	—
2	0.5	L-BU	2425	Driver Heated Back NTC Signal	I	—
3	0.5	BK/YE	2080	Driver Heated Seat NTC Low Reference	I	—
4	0.75	BR/BK	2078	Driver Heated Seat Element Low Reference	I	—

E14A Seat Heating Element - Driver Back (KB6)



Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: AIT2WSB-02A-1AK

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 0.64 Series (BK)

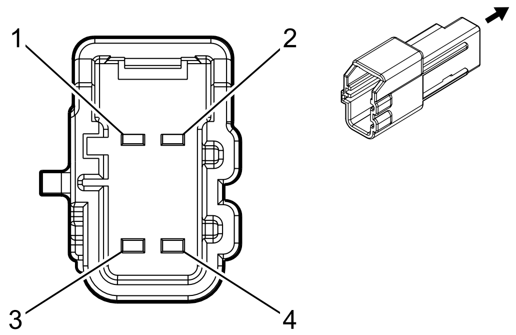
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-65B (LT BU)	No Tool Required	Not Required	Not Required	Not Required	Not Required

E14A Seat Heating Element - Driver Back (KB6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BR	2432	Driver Heated Back Element Control	I	—
2	0.75	BK	1150	Ground	I	—

E14B Seat Heating Element - Driver Cushion (KA1)



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 6098-7779

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 1.2 Series (BK)

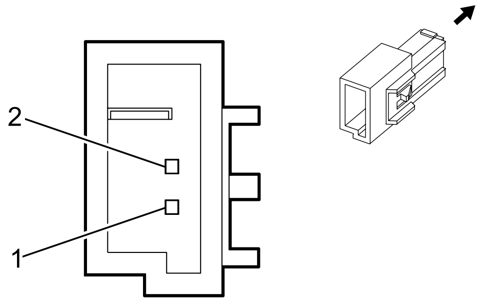
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-13 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E14B Seat Heating Element - Driver Cushion (KA1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BR/VT	2077	Driver Heated Seat Element Control	I	—
2	0.5	YE/GY	2079	Driver Heated Seat NTC Signal	I	—
3	0.5	BR/YE	2080	Driver Heated Seat NTC Low Reference	I	—
4	0.75	BR/BK	2078	Driver Heated Seat Element Low Reference	I	—

E14B Seat Heating Element - Driver Cushion (KB6)



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: AIT2WSB-02A-1AK

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 0.64 Series (BK)

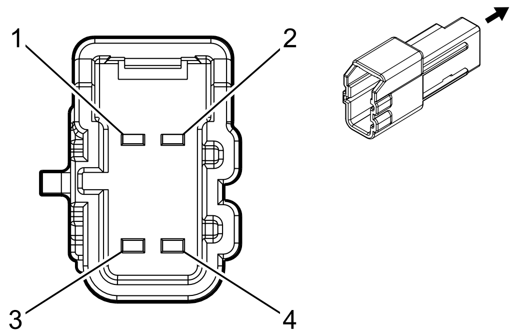
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-65B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E14B Seat Heating Element - Driver Cushion (KB6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BR/VT	2077	Driver Heated Seat Element Control	I	—
2	0.75	BK	1150	Ground	I	—

E14C Seat Heating Element - Passenger Back (KA1)



Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 6098-7781

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 1.2 Series (GY)

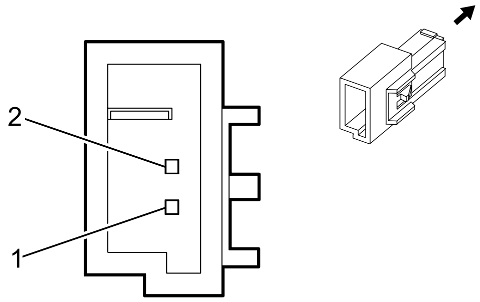
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-13 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E14C Seat Heating Element - Passenger Back (KA1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/BR	2481	Passenger Heated Back Element Control	I	—
2	0.5	WH/L-BU	2436	Passenger Heated Back NTC Signal	I	—
3	0.5	BK/L-GN	2482	Passenger Heated Back NTC Low Reference	I	—
4	0.75	GY/BK	2480	Passenger Heated Seat Element Low Reference	I	—

E14C Seat Heating Element - Passenger Back (KB6)



Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: AIT2WSB-02A-1AK

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 0.64 Series (BK)

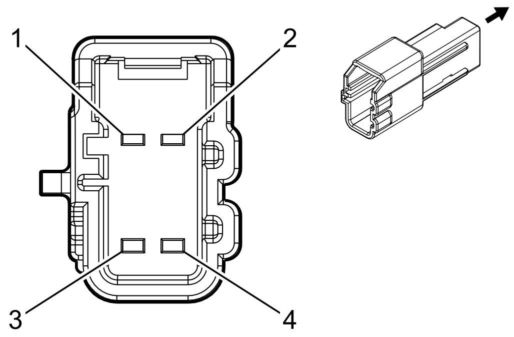
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-65B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E14C Seat Heating Element - Passenger Back (KB6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/BR	2481	Passenger Heated Back Element Control	I	—
2	0.75	BK	1250	Ground	I	—

E14D Seat Heating Element - Passenger Cushion (KA1)



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 6098-7779

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 1.2 Series (BK)

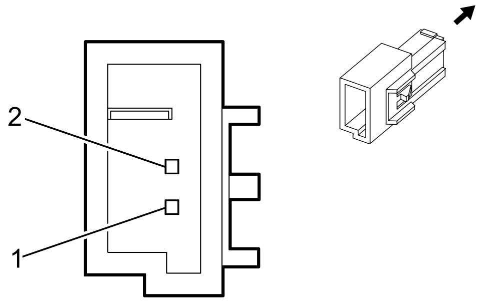
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-13 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E14D Seat Heating Element - Passenger Cushion (KA1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BR/L-BU	2479	Passenger Heated Seat Element Control	I	—
2	0.5	WH/GY	2434	Passenger Heated Seat NTC Signal	I	—
3	0.5	BK/GY	2435	Passenger Heated Seat NTC Low Reference	I	—
4	0.75	GY/BK	2480	Passenger Heated Seat Element Low Reference	I	—

E14D Seat Heating Element - Passenger Cushion (KB6)



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: AIT2WSB-02A-1AK

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 0.64 Series (BK)

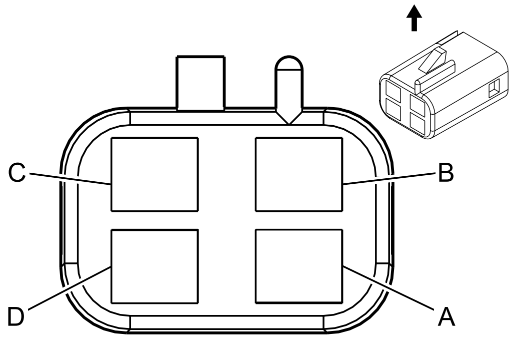
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-65B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E14D Seat Heating Element - Passenger Cushion (KB6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BR/L-BU	2479	Passenger Heated Seat Element Control	I	—
2	0.75	BK	1250	Ground	I	—

E15 Steering Wheel Heater



Connector Part Information

Harness Type: Steering Wheel

OEM Connector: 12047785

Service Connector: 12102900

Description: 4-Way F 150 Metri Pack Series (BK)

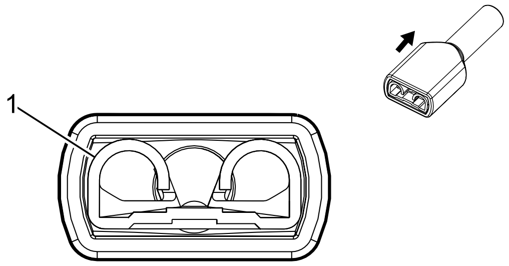
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E15 Steering Wheel Heater

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	YE	5888	Heated Steering Wheel High Control	I	UVD
B	0.75	YE	1050	Ground	I	UVD
C	0.5	RD/BK	5886	Heated Steering Wheel Sensor Signal	I	UVD
D	0.5	RD/BK	1050	Ground	I	UVD

E17D Outside Rearview Mirror Glass - Driver X1 (DL3, DL8, DPN or DQS)



Connector Part Information

Harness Type: Outside Rearview Mirror Glass - Driver

OEM Connector: 9-520272-2

Service Connector: Service by Harness - See Part

Description: 1-Way F 250 Series (BK)

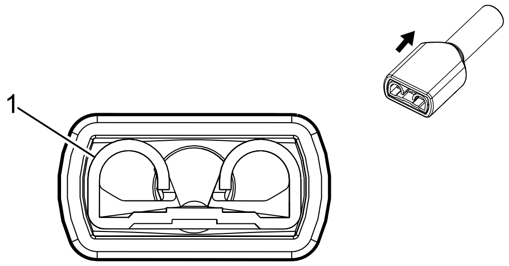
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E17D Outside Rearview Mirror Glass - Driver X1 (DL3, DL8, DPN or DQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	2267	Mirror Heating Element Supply Voltage	I	-

E17D Outside Rearview Mirror Glass - Driver X2 (DL3, DL8, DPN or DQS)



Connector Part Information

Harness Type: Outside Rearview Mirror Glass - Driver

OEM Connector: 9-520272-2

Service Connector: Service by Harness - See Part

Description: 1-Way F 250 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E17D Outside Rearview Mirror Glass - Driver X2 (DL3, DL8, DPN or DQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1150	Ground	I	-

E17D Outside Rearview Mirror Glass - Driver X3 (DL3 or DPN)

Connector Part Information

Harness Type:

OEM Connector: 03-06-1044

Service Connector: Service by Harness – See Part Catalog

Description: 4 F (BK)

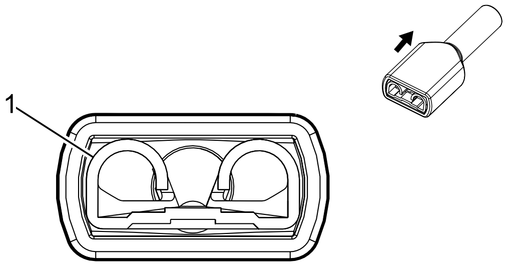
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E17D Outside Rearview Mirror Glass - Driver X3 (DL3 or DPN)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/BU	1314	Left Front Turn Signal Lamp Supply Voltage	I	-
2	0.35	BK/WH	1150	Ground	I	-
3	0.35	PK	1691	Automatic Day/Night Mirror Low Reference	I	-
4	0.35	GN/BK	1690	Automatic Day/Night Mirror Signal	I	-

E17P Outside Rearview Mirror Glass - Passenger X1 (DL3, DL8, DPN or DQS)



Connector Part Information

Harness Type: Outside Rearview Mirror Glass - Passenger

OEM Connector: 9-520272-2

Service Connector: Service by Harness - See Part

Description: 1-Way F 250 Series (BK)

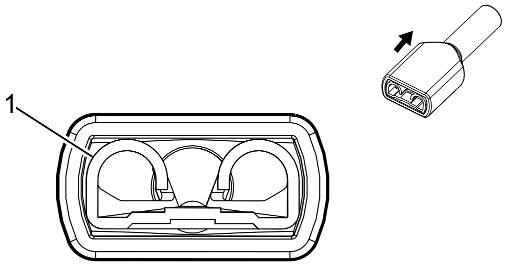
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E17P Outside Rearview Mirror Glass - Passenger X1 (DL3, DL8, DPN or DQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	2267	Mirror Heating Element Supply Voltage	I	-

E17P Outside Rearview Mirror Glass - Passenger X2 (DL3, DL8, DPN or DQS)



Connector Part Information

Harness Type: Outside Rearview Mirror Glass - Passenger

OEM Connector: 9-520272-2

Service Connector: Service by Harness - See Part

Description: 1-Way F 250 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E17P Outside Rearview Mirror Glass - Passenger X2 (DL3, DL8, DPN or DQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1250	Ground	I	-

E17P Outside Rearview Mirror Glass - Passenger X3 (DL3 or DPN)

Connector Part Information

Harness Type:

OEM Connector: 03-06-1044

Service Connector: Service by Harness – See Part Catalog

Description: 4 F (BK)

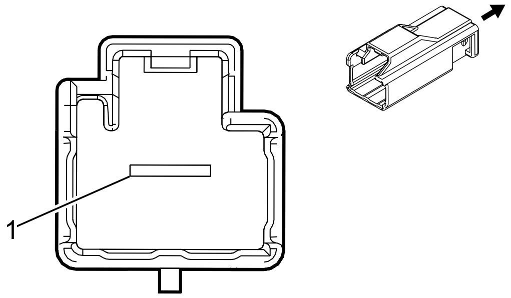
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E17P Outside Rearview Mirror Glass - Passenger X3 (DL3 or DPN)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/BU	1315	Right Front Turn Signal Lamp Supply Voltage	I	-
2	0.35	BK/WH	1250	Ground	I	-
3-4	-	-	-	Not Occupied	-	-

E18 Rear Defogger Grid



Connector Part Information

Harness Type: Body

OEM Connector: 13953570

Service Connector: 19333227

Description: 1-Way M 6.3 Series (BK)

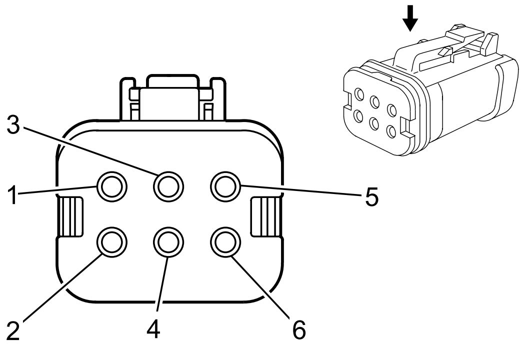
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-43 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required

E18 Rear Defogger Grid

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BN/VT	293	Rear Defog Element Control	I	—

E24 Intake Air Heater



Connector Part Information

Harness Type: Engine

OEM Connector: DT16-6S-KP01

Service Connector: 13576409

Description: 6-Way F 2.8 Series, Sealed (GN)

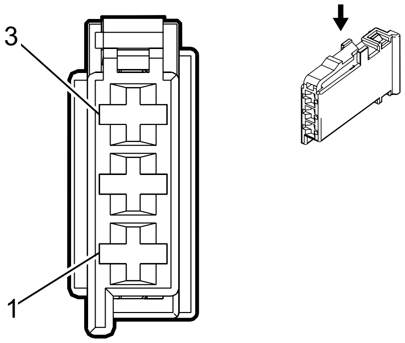
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-66 (YE)	Not Required	Not Required	Not Required	Not Required	Not Required

E24 Intake Air Heater

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	2923	Intake Air Heater Temperature Signal	I	LML
2	0.5	OR/BK	2921	Intake Air Heater Switch On/Off Signal	I	LML
3	0.5	YE	2920	Intake Air Heater Heart Beat Signal	I	LML
4	0.5	D-GN	2924	Intake Air Heater Current Feedback Signal	I	LML
5	0.5	—	2925	Intake Air Heater Voltage Feedback Signal	I	LML
6	0.5	VT	2922	Intake Air Heater Digital Response Signal	I	LML

E28 Center Console Compartment Lamp



Connector Part Information

Harness Type: Floor Console

OEM Connector: 10865339

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 1.6 Micro-Timer Series (BK)

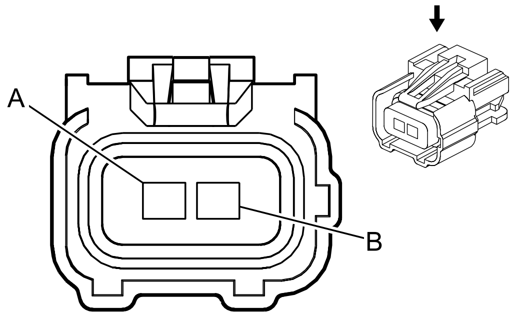
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

E28 Center Console Compartment Lamp

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/BN	6815	Inadvertent Power Control	I	—
2	0.5	BK	1050	Ground	I	—
3	—	—	—	Not Occupied	—	—

E29LF Fog Lamp - Left Front



Connector Part Information

Harness Type: Front Bumper

OEM Connector: 15489797

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 150 Series (BK)

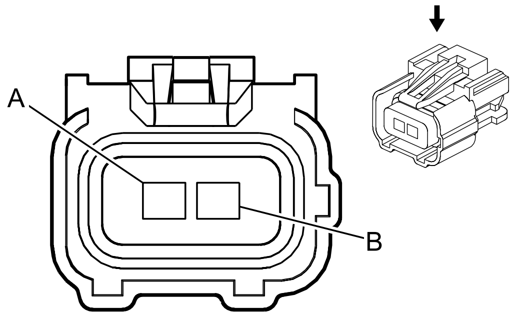
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

E29LF Fog Lamp - Left Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BN/VT	2234	Front Fog Lamp Control	I	—
B	0.5	BK	150	Ground	I	—

E29RF Fog Lamp - Right Front



Connector Part Information

Harness Type: Front Bumper

OEM Connector: 15489797

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 150 Series (BK)

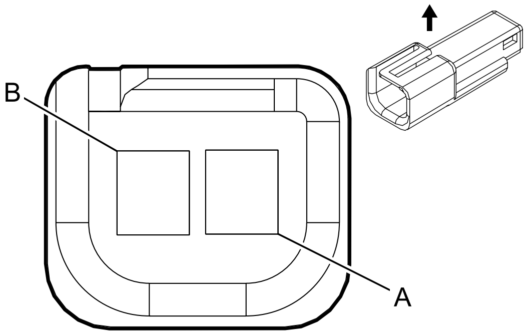
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

E29RF Fog Lamp - Right Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BN/VT	2234	Front Fog Lamp Control	I	—
B	0.5	BK	250	Ground	I	—

E31L Sunshade Mirror Lamp - Left



Connector Part Information

Harness Type: Headliner

OEM Connector: 12047663

Service Connector: 13584278

Description: 2-Way M 150 Metri-Pack Series (BK)

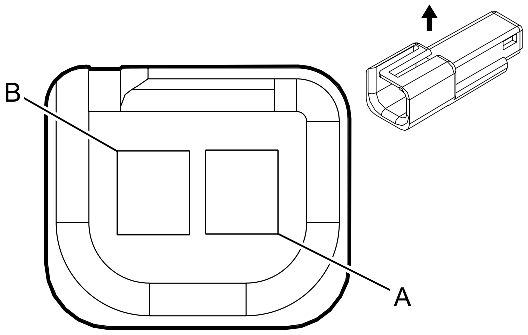
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

E31L Sunshade Mirror Lamp - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH/BN	6815	Inadvertent Power Control	I	—
B	0.5	BK	1050	Ground	I	—

E31R Sunshade Mirror Lamp - Right



Connector Part Information

Harness Type: Headliner

OEM Connector: 12047663

Service Connector: 13584278

Description: 2-Way M 150 Metri-Pack Series (BK)

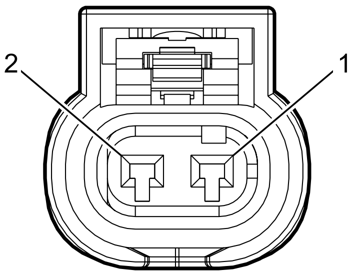
Terminal Part Information

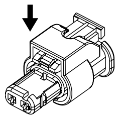
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

E31R Sunshade Mirror Lamp - Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH/BN	6815	Inadvertent Power Control	I	—
B	0.5	BK	1050	Ground	I	—

E33L Cargo Lamp - Left (S0Y/UF2)





Connector Part Information

Harness Type: Cargo Bed Perimeter Lighting

OEM Connector: 13580179

Service Connector: 13587957

Description: 2-Way F 1.2 MCP Series, Sealed (BK)

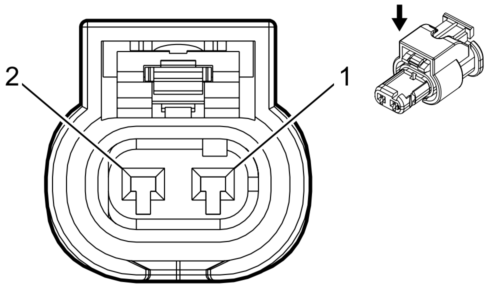
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E33L Cargo Lamp - Left (S0Y/UF2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD	1430	Exterior Courtesy Lamp Supply Voltage	I	-
2	0.5	BK	1750	Ground	I	-

E33R Cargo Lamp - Right (S0Y/UF2)



Connector Part Information

Harness Type: Cargo Bed Perimeter Lighting

OEM Connector: 13580179

Service Connector: 13587957

Description: 2-Way F 1.2 MCP Series, Sealed (BK)

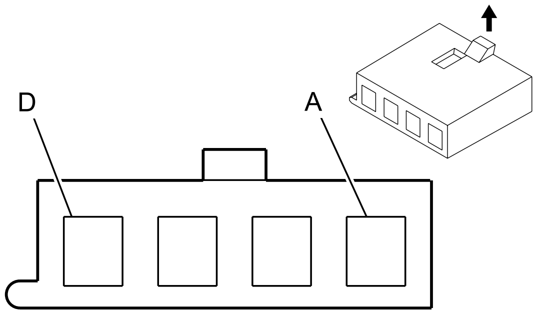
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

E33R Cargo Lamp - Right (S0Y/UF2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD	1430	Exterior Courtesy Lamp Supply Voltage	I	-
2	0.5	BK	1750	Ground	I	-

E37B Dome/Reading Lamps - 2nd Row



Connector Part Information

Harness Type: Headliner

OEM Connector: 12092162

Service Connector: 15306021

Description: 4-Way F 150 Metri-Pack Series (BK)

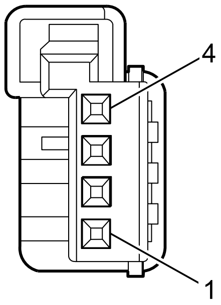
Terminal Part Information

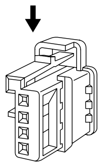
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

E37B Dome/Reading Lamps - 2nd Row

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	WH/BN	6815	Inadvertent Power Control	I	—
B	0.5	BK	1050	Ground	I	—
C	0.5	GY	157	Interior Lamp Control	I	—
D	0.5	YE	6817	LED Backlight Dimming Control	I	—

E37EL Dome/Reading Lamps - Front Overhead Console Left





Connector Part Information

Harness Type: Overhead Console

OEM Connector: 10812166

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64 Micro Quadlock Series (GY)

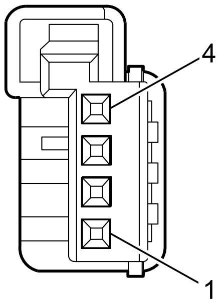
Terminal Part Information

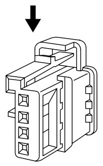
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E37EL Dome/Reading Lamps - Front Overhead Console Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	6817	LED Backlight Dimming Control	I	—
2	0.5	WH/BN	6815	Inadvertent Power Control	I	—
3	0.5	GY	157	Interior Lamp Control	I	—
4	0.5	BK	1050	Ground	I	—

E37ER Dome/Reading Lamps - Front Overhead Console Right





Connector Part Information

Harness Type: Overhead Console

OEM Connector: 10812166

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64 Micro Quadlock Series (GY)

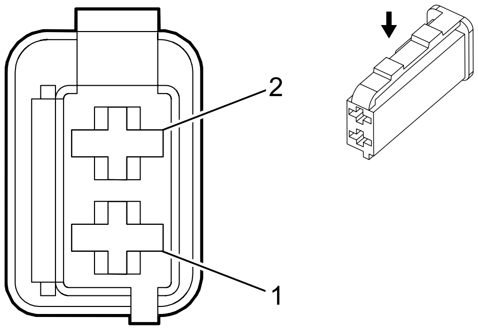
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

E37ER Dome/Reading Lamps - Front Overhead Console Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	6817	LED Backlight Dimming Control	I	—
2	0.5	WH/BN	6815	Inadvertent Power Control	I	—
3	0.5	GY	157	Interior Lamp Control	I	—
4	0.5	BK	1050	Ground	I	—

E63D Flood Lamp – Driver Door Handle (A31)



Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: 13670097

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.6 Timer Series (BK)

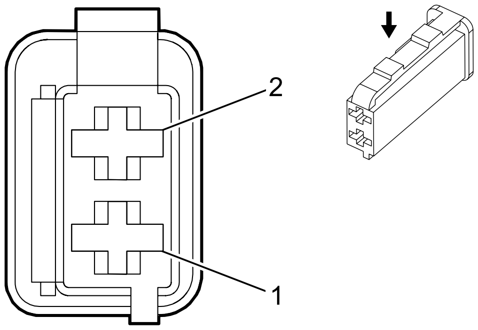
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

E63D Flood Lamp – Driver Door Handle (A31)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/YE	7557	LED Ambient Lighting Control 1	I	—
2	0.35	BK	1150	Ground	I	—

E63P Flood Lamp – Passenger Door Handle (A31)



Connector Part Information

Harness Type: Passenger Door Trim

OEM Connector: 13670097

Service Connector: 13580951

Description: 2-Way F 1.6 Timer Series (BK)

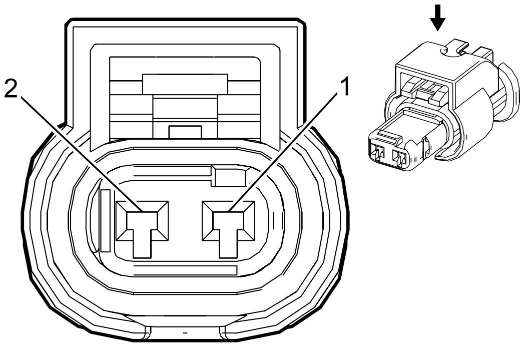
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-14 (GN)	J-38125-560	964274-2	Not Available	Not Available	Not Available

E63P Flood Lamp – Passenger Door Handle (A31)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/YE	7557	LED Ambient Lighting Control 1	I	-
2	0.35	BK	1250	Ground	I	-

F101 Passenger Instrument Panel Air Bag



Connector Part Information

Harness Type: Passenger Air Bag Jumper

OEM Connector: 13863037

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (YE with BK Inner Connector)

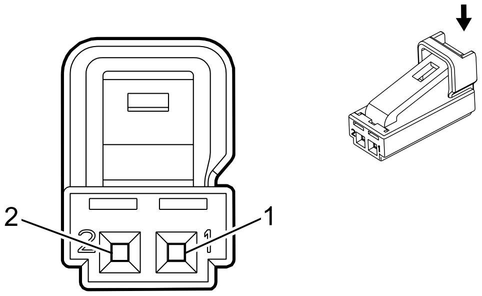
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

F101 Passenger Instrument Panel Air Bag

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE/OG	3025	Passenger IP Module Stage 1 High Control	I	—
2	0.35	OG/WH	3024	Passenger IP Module Stage 1 Low Control	I	—

F102 Hybrid/EV Battery Pack Cable Cover



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 10865735

Service Connector: Service by Harness - See Part Catalog

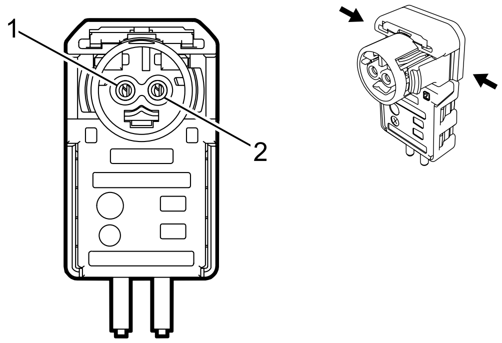
Description: 2-Way F 0.64 MQS Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

F102 Hybrid/EV Battery Pack Cable Cover

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	5087	High Voltage Interlock Loop Signal (1)	I	—
2	0.5	WH	5088	High Voltage Interlock Loop Low Reference (1)	I	—



Connector Part Information

Harness Type: Roof Rail Air Bag Jumper

OEM Connector: Not Available

Service Connector: Service by Harness – See Part Catalog

Description: 2-Way F (BK with YE Cover)

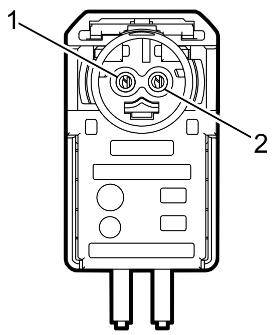
Terminal Part Information

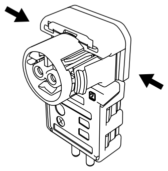
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

F105L Roof Rail Air Bag - Left (AY0)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	5019	Left Front Head Curtain Module High Control	I	AY0
2	0.35	WH	5020	Left Front Head Curtain Module Low Control	I	AY0

F105R Roof Rail Air Bag - Right (AY0)





Connector Part Information

Harness Type: Roof Rail Air Bag Jumper

OEM Connector: Not Available

Service Connector: Service by Harness – See Part Catalog

Description: 2-Way F (BK with YE Cover)

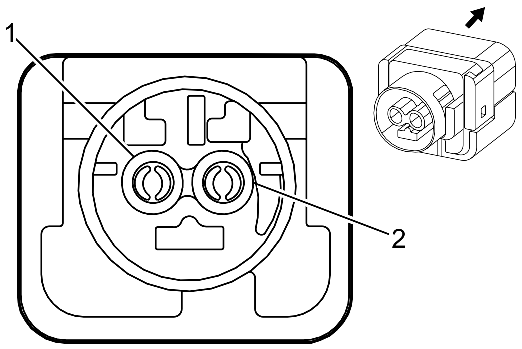
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

F105R Roof Rail Air Bag - Right (AY0)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	5021	Right Front Head Curtain Module High Control	I	AY0
2	0.35	WH	5022	Right Front Head Curtain Module Low Control	I	AY0

F106D Seat Side Air Bag - Driver



Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: PPI0001142

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F FPB 180-1 Series (BK with YE cover)

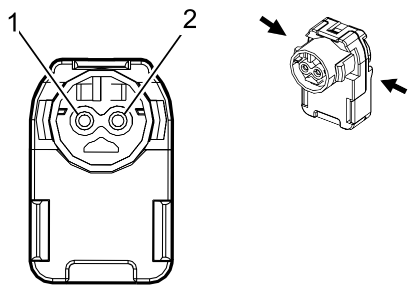
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

F106D Seat Side Air Bag - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OR/L-BU	3068	Driver Side Impact Module High Control	I	—
2	0.5	L-GN/OR	3069	Driver Side Impact Module Low Control	I	—

F106DA Seat Side Air Bag - Driver Inboard



Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: PPI0001722

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 0.64 Series, Sealed (L-GN with YE cover)

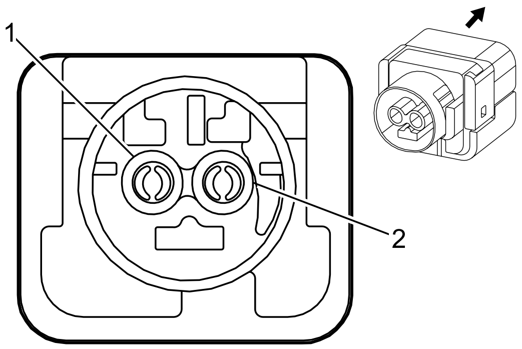
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required

F106DA Seat Side Air Bag - Driver Inboard

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BR/WH	4107	Center Side Impact Module High Control	I	—
2	0.5	VT	4106	Center Side Impact Module Low Control	I	—

F106P Seat Side Air Bag - Passenger



Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: PPI0001142

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F FPB 180-1 Series (BK with YE cover)

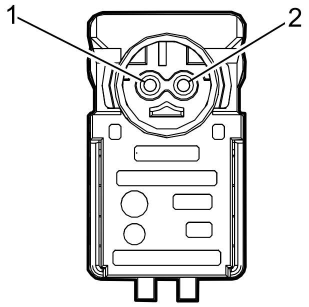
Terminal Part Information

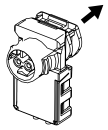
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

F106P Seat Side Air Bag - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OR/GY	3066	Passenger Side Impact Module High Control	I	—
2	0.5	BR/OR	3067	Passenger Side Impact Module Low Control	I	—

F107 Steering Wheel Air Bag X1 (1500)





Connector Part Information

Harness Type: Steering Wheel Coil

OEM Connector: 13580454

Service Connector: Service by Harness - See Part Catalog

Description: 2–Way F AK 2 Series (L-GN with YE cover)

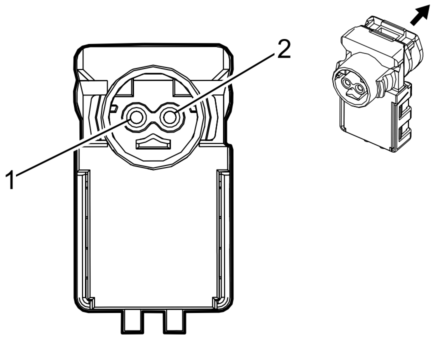
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

F107 Steering Wheel Air Bag X1 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	OG/VT	3021	Steering Wheel Module Stage 1 High Control	I	-
2	0.35	BN/OG	3020	Steering Wheel Module Stage 1 Low Control	I	-

F107 Steering Wheel Air Bag X2 (1500)



Connector Part Information

Harness Type: Steering Wheel Coil

OEM Connector: 13580453

Service Connector: Service by Harness - See Part Catalog

Description: 2–Way F AK 2 Series (YE with YE cover)

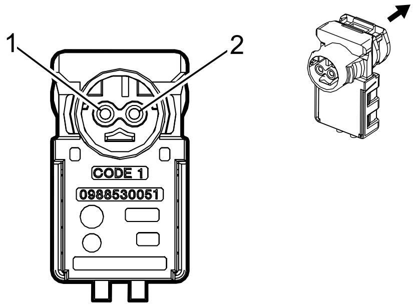
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

F107 Steering Wheel Air Bag X2 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	OG/GN	3023	Steering Wheel Module Stage 2 High Control	I	-
2	0.35	WH/OG	3022	Steering Wheel Module Stage 2 Low Control	I	-

F112D Seat Belt Retractor Pretensioner - Driver



Connector Part Information

Harness Type: Body

OEM Connector: 988530061

Service Connector: 19119345

Description: 2-Way F AK-2 Series (BK with YE cover)

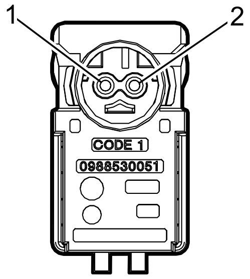
Terminal Part Information

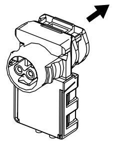
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

F112D Seat Belt Retractor Pretensioner - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD	3477	Driver Seat Belt Retractor Pretensioner High Control	I	—
2	0.5	GY	3478	Driver Seat Belt Retractor Pretensioner Low Control	I	—

F112P Seat Belt Retractor Pretensioner - Passenger





Connector Part Information

Harness Type: Body

OEM Connector: 988530061

Service Connector: 19119345

Description: 2-Way F AK-2 Series (BK with YE cover)

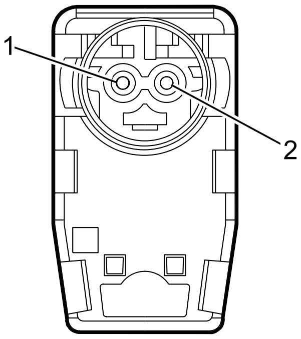
Terminal Part Information

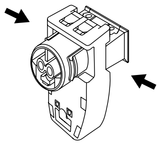
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

F112P Seat Belt Retractor Pretensioner - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN	3475	Passenger Seat Belt Retractor Pretensioner High Control	I	—
2	0.5	WH	3476	Passenger Seat Belt Retractor Pretensioner Low Control	I	—

F113D Seat Belt Anchor Pretensioner - Driver





Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: PPI0001721

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 0.64 Series, Sealed (BK with YE cover)

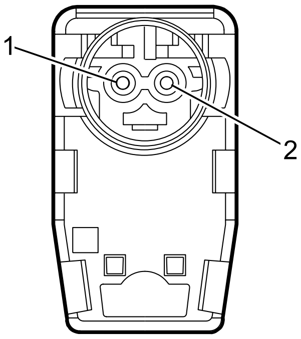
Terminal Part Information

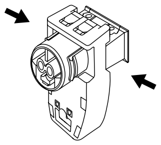
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

F113D Seat Belt Anchor Pretensioner - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OR/YE	3481	Driver Seat Belt Anchor Pretensioner High Control	I	—
2	0.5	YE/OR	3482	Driver Seat Belt Anchor Pretensioner Low Control	I	—

F113P Seat Belt Anchor Pretensioner - Passenger





Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: PPI0001721

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 0.64 Series, Sealed (BK with YE cover)

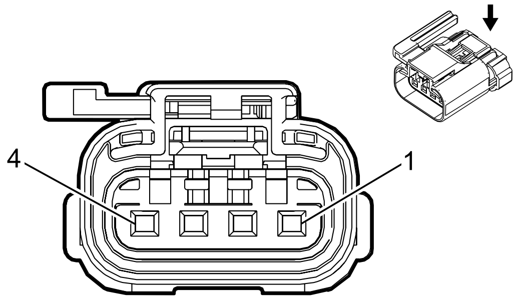
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

F113P Seat Belt Anchor Pretensioner - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	OR/BR	3479	Passenger Seat Belt Anchor Pretensioner High Control	I	—
	0.5	OR/BR	3479		II	—
2	0.5	GY/OR	3480	Passenger Seat Belt Anchor Pretensioner Low Control	I	—
	0.5	GY/OR	3480		II	—

G10L Cooling Fan Motor - Left



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13949247

Service Connector: 19301718

Description: 4-Way F 2.8 APEX Series, Sealed (BK)

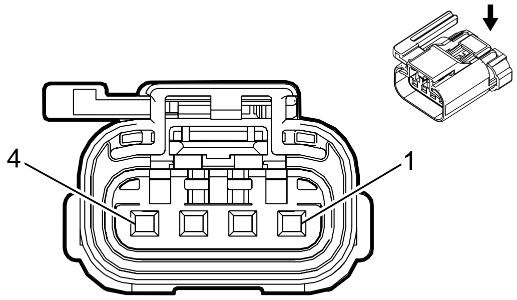
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

G10L Cooling Fan Motor - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	4	BK	150	Ground	I	—
2	4	RD/WH	342	Battery Positive Voltage	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	BN/YE	473	High Speed Cooling Fan Relay Control	I	—

G10R Cooling Fan Motor - Right



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13949247

Service Connector: 19301718

Description: 4-Way F 2.8 APEX Series, Sealed (BK)

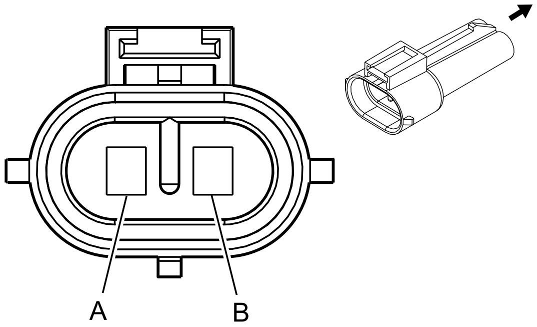
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

G10R Cooling Fan Motor - Right

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	4	BK	250	Ground	I	—
2	4	RD/GY	642	Battery Positive Voltage	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	BN/YE	473	High Speed Cooling Fan Relay Control	I	—

G12 Fuel Pump



Connector Part Information

Harness Type: Chassis

OEM Connector: 12059450

Service Connector: 13580868

Description: 2-Way M 280 Metri-Pack Series, Sealed (BK)

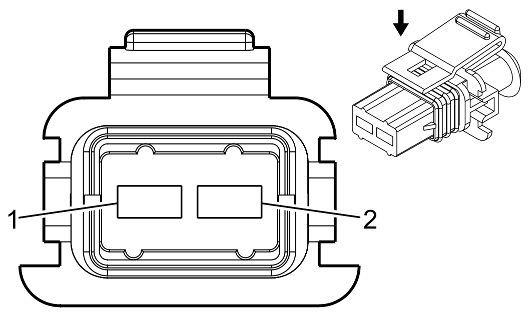
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

G12 Fuel Pump

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	GY	120	Fuel Pump Control	I	—
B	3	BK	2150	Ground	I	—

G13E Generator - Auxiliary X1 (KH5 or KHB)



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 12186308

Service Connector: 13585849

Description: 2-Way F Junior Power Timer Series, Sealed (BK)

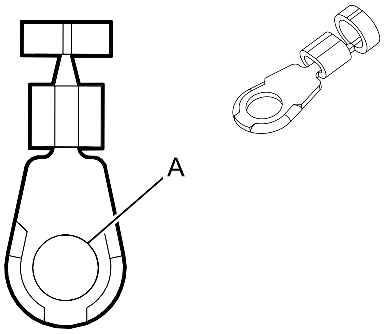
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

G13E Generator - Auxiliary X1 (KH5 or KHB)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN	25	Charge Indicator Control	I	—
2	—	—	—	Not Occupied	—	—

G13E Generator - Auxiliary X2 (KH5 or KHB)



Connector Part Information

Harness Type: Battery Positive Jumper

OEM Connector: 12146365

Service Connector: Service by Harness - See Part Catalog

Description: 1-Way Ring Terminal

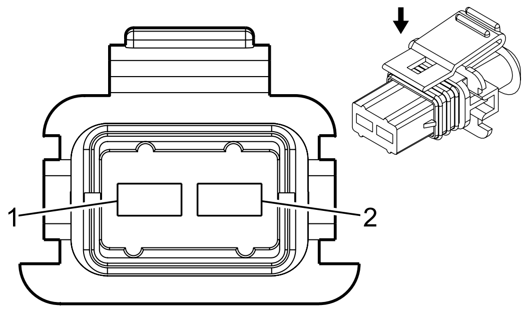
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Required	Not Available	Not Available	Not Available	Not Available	Not Available

G13E Generator - Auxiliary X2 (KH5 or KHB)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	25	RD/YE	2	Battery Positive Voltage	I	–

G13 Generator X1



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 12186308

Service Connector: 13585849

Description: 2-Way F Junior Power Timer Series, Sealed (BK)

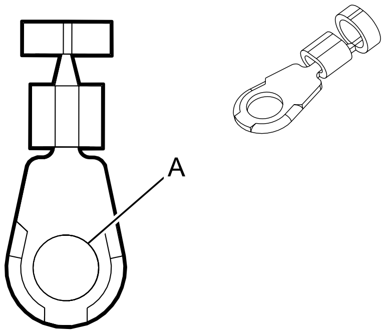
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

G13 Generator X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	25	Charge Indicator Control	I	—
	0.5	BN	25		II	—
	0.75	BN	25		I	—
2	0.5	GY	23	Generator Field Duty Cycle Signal	I	—
	0.5	GY	23		II	—
	0.75	GY	23		I	—

G13 Generator X2



Connector Part Information

Harness Type: Battery Positive Jumper

OEM Connector: 12146365

Service Connector: Service by Harness - See Part Catalog

Description: 1-Way Ring Terminal

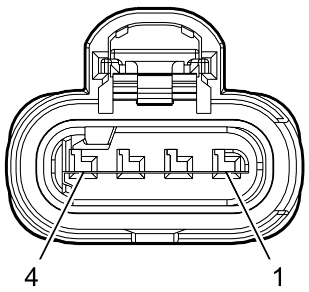
Terminal Part Information

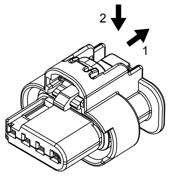
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Required	Not Available	Not Available	Not Available	Not Available	Not Available

G13 Generator X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	25	RD/YE	2	Battery Positive Voltage	I	–

G14 Hybrid/EV Battery Pack Cooling Fan





Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 13592501

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 1.2 MCON-CB Series, Sealed (BK)

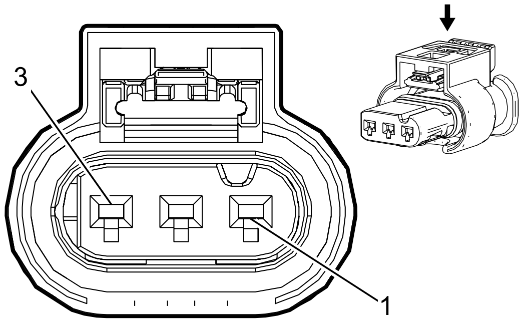
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

G14 Hybrid/EV Battery Pack Cooling Fan

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	6276	Fan Speed Sensor Low Reference	I	—
2	0.35	WH	5598	Fan Speed Signal (1)	I	—
3	0.35	WH	5599	Fan Speed Signal (2)	I	—
4	0.5	WH	6277	Fan Speed Sensor Control	I	—

G17 Heater Coolant Pump



Connector Part Information

Harness Type: Engine

OEM Connector: 13663390

Service Connector: 13574937

Description: 3-Way F 1.2 MLK Series, Sealed (BK)

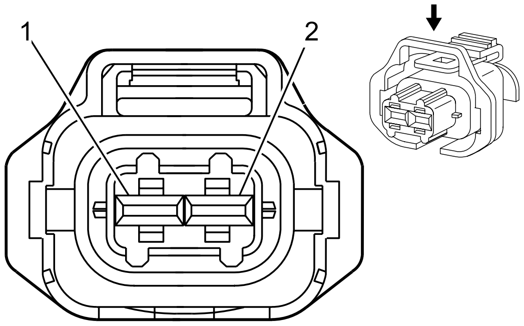
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

G17 Heater Coolant Pump

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	550	Ground	I	—
2	0.5	YE/D-BU	5126	After Boil Heater Pump Control	I	—
3	—	—	—	Not Occupied	—	—

G18 High Pressure Fuel Pump (1500)



Connector Part Information

Harness Type:

OEM Connector: 1928403874

Service Connector: 88988963

Description: 2 F Kompakt 2.8 Series, Sealed (BK)

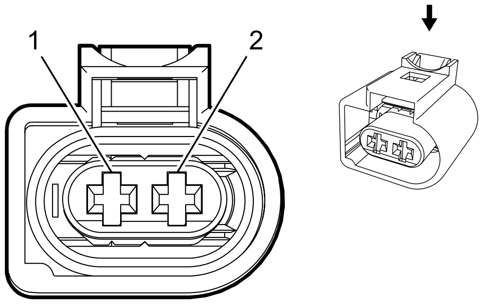
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

G18 High Pressure Fuel Pump (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	7301	High Pressure Fuel Pump Actuator High - Control	I	-
2	0.5	VT/BK	7300	High Pressure Fuel Pump Actuator Low - Control	I	-

G24 Windshield Washer Pump



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 10863916

Service Connector: 13576532

Description: 2-Way F 2.8 MDK5 Series, Sealed (BK)

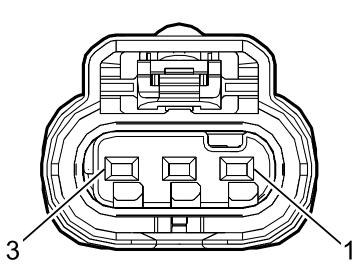
Terminal Part Information

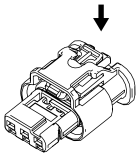
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

G24 Windshield Washer Pump

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	GY/VT	228	Windshield Washer Pump Control	I	—
2	0.75	BK	150	Ground	I	—

G43 Starter/Generator Coolant Pump





Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13868589

Service Connector: 19329387

Description: 3-Way F 1.2 Multiple Contact Point Series, Sealed (BN)

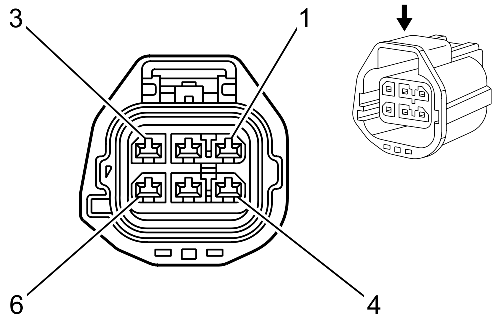
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

G43 Starter/Generator Coolant Pump

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	BK	250	Ground	I	—
2	0.5	GY/D-BU	3769	MGU Coolant Pump Control	I	—
3	0.5	VT/D-BU	3790	Electric Coolant Motor Feedback Signal	I	—

K4 Assist Step Control Module X1 (BRS)



Connector Part Information

Harness Type: Chassis

OEM Connector: 15342659

Service Connector: 88988393

Description: 6-Way F 2.8 Series, Sealed (D-GY)

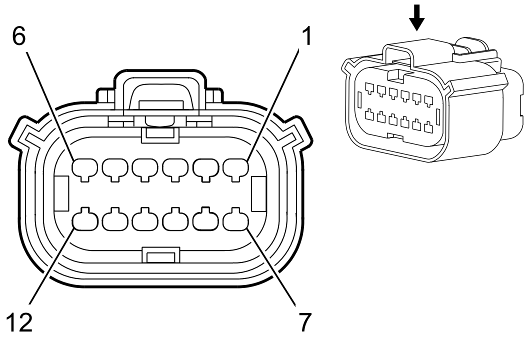
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

K4 Assist Step Control Module X1 (BRS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2	L-GN	7469	Articulating Running Boards Motor Right Control Retract	I	—
2	2.5	BK	2150	Ground	I	—
3	2	WH/BN	7471	Articulating Running Boards Motor Left Control Extend	I	—
4	2	D-BU	7470	Articulating Running Boards Motor Right Control Extend	I	—
5	2.5	RD/YE	1142	Battery Positive Voltage	I	—
6	2	GY	7472	Articulating Running Boards Motor Left Control Retract	I	—

K4 Assist Step Control Module X2 (BRS)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13653762

Service Connector: 13503528

Description: 12-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

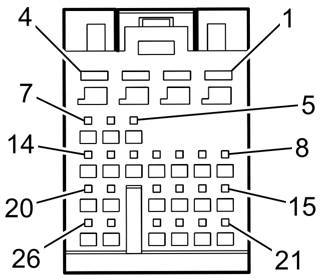
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

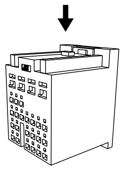
K4 Assist Step Control Module X2 (BRS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/RD	7468	Running Boards Motor Hall Sensor Left 5 Volt Reference	I	—
2	0.5	L-GN/RD	7464	Running Boards Motor Hall Sensor Right 5 Volt Reference	I	—
3	0.5	YE	7467	Running Boards Motor Hall Sensor Left Signal	I	—
4	0.5	VT	7465	Running Boards Motor Hall Sensor Right Signal	I	—
5	0.5	YE/BN	7466	Running Boards Motor Hall Sensor Left Low Reference	I	—
6	0.5	YE/BK	7463	Running Boards Motor Hall Sensor Right Low Reference	I	—
7	0.5	BN/WH	9002	Low Reference	I	—
8	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—

9	—	—	—	Not Occupied	—	—
10	0.5	BN/WH	7462	Running Boards Disable Signal	I	—
11	0.5	BN/WH	9001	Assist Step Switch Signal Left	I	—
12	0.5	BN/WH	9000	Assist Step Switch Signal Right	I	—

K9 Body Control Module X1





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13943345

Service Connector: 13582966

Description: 26-Way F 0.64, 2.8 Series (NA)

Terminal Part Information

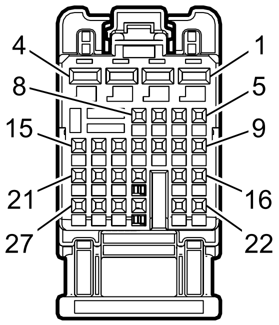
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575871	J-35616-35 (VT)	J-38125-12A	SNAC-A061T-M2.8	14	C	A
II	13575871	J-35616-35 (VT)	J-38125-12A	SNAC-A061T-M2.8	14	E	A
III	13582297	J-35616-64B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available

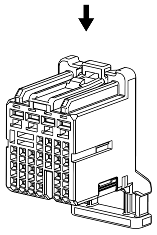
K9 Body Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	1850	Ground	II	—
2	0.75	RD/D-BU	2540	Battery Positive Voltage	II	—
3	1	RD/GY	2140	Battery Positive Voltage	I	—
4	0.5	RD/BN	2240	Battery Positive Voltage	II	—
5	0.5	WH	6816	Indicator Dimming Control	III	—
6	—	—	—	Not Occupied	—	—
7	0.35	BK/YE	5005	Instrument Panel Lamp Dimmer Switch Low Reference	III	—
8 - 9	—	—	—	Not Occupied	—	—

8 - 9	—	—	—	Not Occupied	—	—
10	0.5	D-BU/VT	1134	Park Brake Switch Signal	III	—
11	0.35	L-GN/BN	306	Headlamp Switch Headlamps Off Signal Control	III	—
12	—	—	—	Not Occupied	—	—
13	0.35	D-BU/RD	1688	5 Volt Reference	III	—
14	0.35	GY/L-GN	328	Interior Lamp Defeat Switch Signal	III	—
15	0.35	D-BU/GY	192	Front Fog Lamp Switch Signal	III	—
16	0.35	WH/VT	103	Headlamp Switch On Signal	III	—
17 - 18	—	—	—	Not Occupied	—	—
19	0.35	BK/L-GN	552	Sensor Low Reference	III	—
20	—	—	—	Not Occupied	—	—
21	0.35	GY	728	Security Indicator Control	III	—
22	0.35	L-GN/GY	13	Headlamp Switch Park Lamp Signal	III	—
23	0.5	VT/L-GN	7558	LED Ambient Lighting Control 2	III	—
24	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	III	—
25	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	III	—
26	0.35	D-BU/WH	3275	Remote Function Actuator Receive Signal	III	—

K9 Body Control Module X2





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13943361

Service Connector: 13576637

Description: 27-Way F 0.64, 2.8 Series (L-BU)

Terminal Part Information

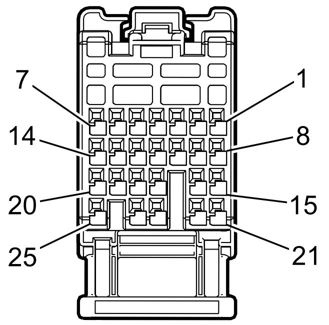
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575871	J-35616-35 (VT)	J-38125-12A	SNAC-A061T-M2.8	14	E	A
II	13582297	J-35616-64B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available

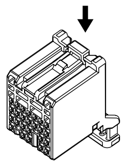
K9 Body Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/WH	2740	Battery Positive Voltage	I	—
2	0.75	BK	1850	Ground	I	—
3	0.5	RD/BN	2940	Battery Positive Voltage	I	—
4	0.75	RD/VT	4040	Battery Positive Voltage	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	GY	5697	Child Lockout Indicator Control	II	—
7	0.35	WH/L-GN	526	Stop Lamp Switch Signal	II	—
8	0.5	YE	6817	LED Backlight Dimming Control	II	—

9	0.35	YE/GY	44	Instrument Panel Lamp Dimmer Switch Signal	II	—
10	0.35	WH/D-BU	278	Ambient Light Sensor Signal	II	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.35	GY/RD	598	5 Volt Reference	II	—
14	0.35	D-BU/VT	1788	Traction Control Switch Signal (1)	II	—
15	0.35	BN/WH	781	Driver Door Lock Switch Unlock Signal	II	—
16	0.35	GY	3273	Remote Function Actuator Low Reference	II	—
17	—	—	—	Not Occupied	—	—
18	0.5	GY	158	Cargo Lamp Switch Signal	II	—
19	0.35	BN/YE	780	Driver Door Lock Switch Lock Signal	II	—
20	0.5	WH/D-BU	3691	Trailer Brake Apply Signal	II	—
21	0.5	L-GN/GY	6135	Local Interconnect Network Serial Data Bus 4	II	—
22 - 24	—	—	—	Not Occupied	—	—
25	0.35	GY/WH	3272	Remote Function Actuator Control	II	—
26	0.35	L-GN/WH	111	Hazard Switch Signal	II	—
27	0.35	YE/L-GN	3274	Remote Function Actuator Transmit Signal	II	—

K9 Body Control Module X3





Connector Part Information

Harness Type: Steering Column

OEM Connector: HATTPB-25-3C-LM

Service Connector: Service by Harness - See Part Catalog

Description: 25-Way F 0.64 Series (GN)

Terminal Part Information

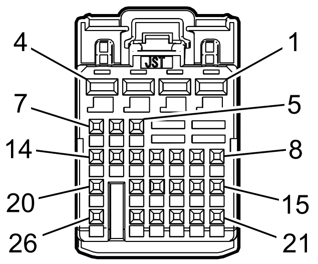
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

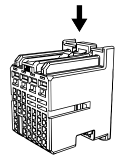
K9 Body Control Module X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GN/GY	3277	Vehicle Anti-Theft System Immobilizer Return	I	-
2	0.5	GN/VT	7533	Linear Interconnect Network Bus 11	I	-
3	0.5	GY/BK	3276	Vehicle Anti-Theft System Immobilizer Supply Voltage	I	-
4	0.5	WH/RD	1444	12 Volt Reference	I	-
5	0.5	VT/YE	4	Accessory Voltage	I	-
6	0.5	VT/BK	3	Run/Crank Ignition 1 Voltage	I	-
7-8	-	-	-	Not Occupied	-	-
9	0.5	BN/GN	1884	Cruise Control Set/Coast/Resume/Accelerate Switch Signal	I	-
10	0.5	BK/GY	6009	Low Reference	I	-
11	0.5	WH	524	Headlamp Dimmer Switch High Beam Signal	I	-
12	0.5	WH/GN	663	Hazard Switch Left Turn Signal	I	-
13	0.5	YE/BU	1714	Windshield Wiper Switch Low Signal	I	-
14	0.5	BU/GY	553	Shift Select Switch Performance Signal	I	-
15	0.5	WH/VT	1020	Off/Run/Crank Voltage	I	-
16	0.5	GY/GN	5737	Adaptive Cruise Control Gap Up/Down Switch Signal	I	-

17	0.5	YE/BN	307	Headlamp Switch Flash To Pass Signal	I	-
18	0.5	GN/WH	3287	Horn Switch Signal	I	-
19	0.5	OG	7527	Linear Interconnect Network Bus 5	I	-
20	0.5	GY	1715	Windshield Wiper Switch High Signal	I	-
21	0.5	VT/YE	5526	Tap Up/Tap Down Switch Signal	I	-
22	0.5	WH/BK	1073	Ignition Key Resistor Signal	I	-
23	0.5	GY/YE	7595	Auto Wiper On Signal	I	-
24	0.5	VT/BU	664	Hazard Switch Right Turn Signal	I	-
25	0.5	WH/BK	94	Windshield Washer Switch Signal	I	-

K9 Body Control Module X4





Connector Part Information

Harness Type: Body

OEM Connector: 13962485

Service Connector: 13587579

Description: 26-Way F 0.64, 2.8 Series (BK)

Terminal Part Information

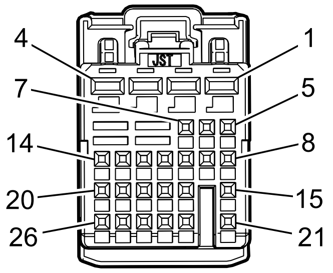
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575871	J-35616-35 (VT)	J-38125-12A	SNAC-A061T-M2.8	14	E	A
II	13582297	J-35616-64B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available

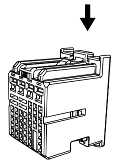
K9 Body Control Module X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE	712	Left Headlamp Low Beam Control	I	—
2	0.75	YE	312	Right Headlamp Low Beam Control	I	—
3	0.75	L-GN/VT	1315	Right Front Turn Signal Lamp Control	I	—
4	0.5	BN/L-GN	19	Right Rear Stop/Turn Lamp Control	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	0.75	GY/D-BU	7538	Left Front DRL Control	II	—
8 - 10	—	—	—	Not Occupied	—	—
11	0.5	VT/WH	5065	Stop Lamp Relay Coil Control	II	—

12	0.35	GY/VT	755	RAP Relay Coil Control	II	—
13	0.5	L-GN/YE	6846	Rear License Lamp Control	II	—
14	0.35	BN/GY	2268	Windshield Washer Relay Control	II	—
15	0.35	L-GN/VT	5199	Run/Crank Relay Coil Control	II	—
16	0.35	GY	91	Windshield Wiper Motor Relay Coil Control	II	—
17	0.5	BN/L-GN	196	Windshield Wiper Motor Park Switch Signal	II	—
18	0.35	WH/YE	5075	Current Sensor Signal	II	—
19	0.35	D-BU/YE	6844	ABS/TCS Hill Descent Control Switch Signal	II	—
20	0.75	RD/YE	2340	Battery Positive Voltage	II	—
21	0.35	D-BU/VT	5076	Current Sensor Control	II	—
22	0.35	VT/YE	5985	Accessory Wakeup Serial Data	II	—
23	0.5	WH/D-BU	5986	Serial Data Communication Enable	II	—
24	0.5	BN/L-GN	109	Hood Ajar Switch Signal	II	—
25	0.5	L-GN/YE	2081	Exhaust Brake Switch Control	II	—
26	0.75	BK/WH	451	Signal Ground	II	—

K9 Body Control Module X5





Connector Part Information

Harness Type: Body

OEM Connector: 13962299

Service Connector: 13587577

Description: 26-Way F 0.64, 2.8 Series (BN)

Terminal Part Information

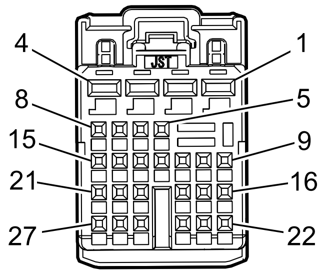
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575871	J-35616-35 (VT)	J-38125-12A	SNAC-A061T-M2.8	14	E	A
II	13582297	J-35616-64B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available

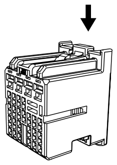
K9 Body Control Module X5

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/D-BU	18	Left Rear Stop/Turn Lamp Control	I	—
2	0.75	D-BU/WH	1314	Left Front Turn Signal Lamp Control	I	—
3	0.75	RD/L-GN	5140	Battery Positive Voltage	I	—
4	0.75	RD/WH	3440	Battery Positive Voltage	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	BK/VT	5077	Current Sensor Low Reference	II	—
7	0.75	D-BU/BN	7539	Right Front DRL Control	II	—
8	0.35	D-BU/WH	5186	Left Trailer Turn Signal Lamp Control	II	—

9	—	—	—	Not Occupied	—	—
10	0.5	BN	1317	Fog Lamp Relay Control	II	—
11	—	—	—	Not Occupied	—	—
12	0.35	WH/D-BU	6311	Cruise/ETC/TCC Brake Signal	II	—
13	—	—	—	Not Occupied	—	—
14	0.5	VT/BN	300	Run Ignition 3 Voltage	II	—
15	0.35	L-GN/WH	3438	Exhaust Brake Switch Signal	II	—
16	0.35	VT/YE	3267	Child Security Lock Relay Control	II	—
17	0.35	YE/GY	5187	Right Trailer Turn Signal Lamp Control	II	—
18	0.35	BN/VT	1969	Headlamp High Beam Relay Control	II	—
19	0.35	BN/WH	28	Horn Relay Control	II	—
20 - 21	—	—	—	Not Occupied	—	—
22	0.35	D-BU	45	Park Lamp Relay Control	II	—
23	0.35	YE	6812	Out of Park Signal	II	—
24	0.35	WH/VT	860	Front Windshield Wiper Switch High Signal	II	—
25	—	—	—	Not Occupied	—	—
26	0.35	D-BU/BN	38	Backup Lamp Relay Control	II	—

K9 Body Control Module X6





Connector Part Information

Harness Type: Body

OEM Connector: 13962300

Service Connector: 13587576

Description: 27-Way F 0.64, 2.8 Series (L-PU)

Terminal Part Information

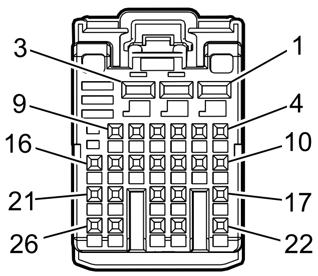
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575871	J-35616-35 (VT)	J-38125-12A	SNAC-A061T-M2.8	14	C	A
II	13575871	J-35616-35 (VT)	J-38125-12A	SNAC-A061T-M2.8	14	E	A
III	13582297	J-35616-64B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available

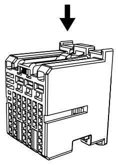
K9 Body Control Module X6

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	D-BU/WH	195	Door Lock Control	I	—
2	1.5	GY/L-GN	3271	Door Lock Control (2)	I	—
3	1.5	BK	1850	Ground	I	—
4	0.75	BN/YE	294	Door Lock Actuator Unlock Control	II	—
	1.5	BN/YE	294		I	—
5	—	—	—	Not Occupied	—	—
6	0.35	D-BU/VT	1124	Door Lock Key Switch Unlock Signal	III	—
7 - 8	—	—	—	Not Occupied	—	—

9	0.5	L-GN/D-BU	6133	Local Interconnect Network Serial Data Bus 2	III	—
10	0.5	L-GN/YE	6134	Local Interconnect Network Serial Data Bus 3	III	—
11	—	—	—	Not Occupied	—	—
12	0.5	YE/BK	5356	Left Tail Lamp Outage Detection Signal	III	—
13 - 20	—	—	—	Not Occupied	—	—
21	0.35	WH/VT	3270	Driver Door Lock Motor Status Signal	III	—
22	0.5	VT/YE	5357	Right Tail Lamp Outage Detection Signal	III	—
23	—	—	—	Not Occupied	—	—
24	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	III	—
25	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	III	—
26	0.5	BN/WH	1429	Standing Lamp Relay Control	III	—
27	—	—	—	Not Occupied	—	—

K9 Body Control Module X7





Connector Part Information

- Harness Type: Body
- OEM Connector: 13962301
- Service Connector: 13587578
- Description: 26-Way F 0.64, 2.8 Series (L-GY)

Terminal Part Information

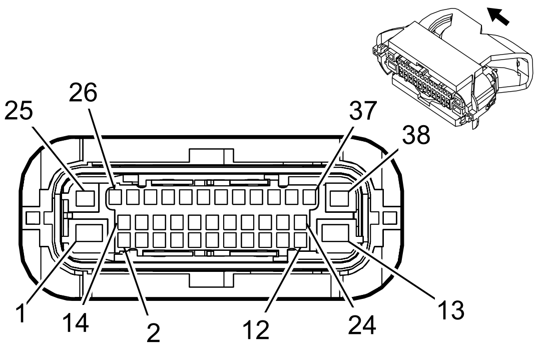
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575871	J-35616-35 (VT)	J-38125-12A	SNAC-A061T-M2.8	14	E	A
II	13582297	J-35616-64B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available

K9 Body Control Module X7

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY	157	Interior Lamp Control	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	WH/BN	6815	Inadvertent Power Control	I	—
4 - 5	—	—	—	Not Occupied	—	—
6	0.5	YE/WH	816	Brake Transmission Shift Interlock Solenoid Control	II	—
7	—	—	—	Not Occupied	—	—
8	0.5	GY/L-GN	5996	Driver Outside Rear View Mirror Puddle Lamp Control	II	—
9	0.5	YE	6817	LED Backlight Dimming Control	II	—
10 - 11	—	—	—	Not Occupied	—	—

12	0.35	BN/WH	3269	Child Security Lock Motor Status Signal Left Rear	II	—
13	—	—	—	Not Occupied	—	—
14	0.35	GY	746	Right Front Door Ajar Switch Signal	II	—
15	0.35	YE/BN	3265	Child Security Lock Switch Signal	II	—
16	0.5	WH/D-BU	3691	Trailer Brake Apply Signal	II	—
17	—	—	—	Not Occupied	—	—
18	0.35	GY/BK	3268	Child Security Lock Motor Status Signal Right Rear	II	—
19	0.35	GY	156	Courtesy Lamp Switch Signal	II	—
20	—	—	—	Not Occupied	—	—
21	0.35	YE/VT	244	Passenger Door Lock Switch Lock Control	II	—
22	0.35	WH/YE	7557	LED Ambient Lighting Control 1	II	—
23	0.5	L-GN	5060	Low Speed GMLAN Serial Data	II	—
24	0.35	BN/VT	245	Passenger Door Lock Switch Unlock Control	II	—
25	0.35	L-GN	4512	Wireless Charging System Charge Indicator Control	II	—
	0.35	GY	745	Left Front Door Ajar Switch Signal		—
26	—	—	—	Not Occupied	—	—

K17 Electronic Brake Control Module



Connector Part Information

Harness Type: Chassis

OEM Connector: 33102987

Service Connector: 19329396

Description: 38-Way F 1.5 CTS, 2.8 MCP, 4.8 MCP Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575368	J-35616-35 (VT)	J-38125-557	1-968857-3	14	C	1
II	19119381	J-35616-14 (GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
III	19119560	J-35616-40 (BU)	J-38125-556	1241408-1	4	B	G
IV	19329757	J-35616-14 (GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available

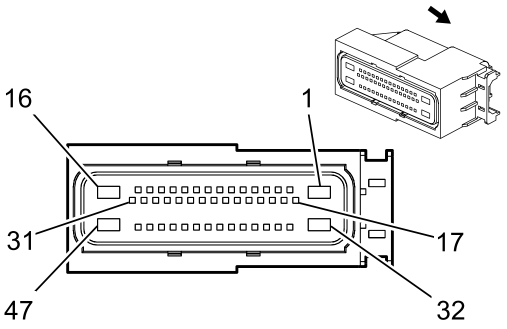
K17 Electronic Brake Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	5	RD/YE	442	Battery Positive Voltage	III	—
2	—	—	—	Not Occupied	—	—
3	0.5	GY/YE	7128	Wheel Speed Sensor Control Right Rear	II	—
4	0.5	VT	882	Wheel Speed Sensor Signal Right Rear	II	—
5	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	II	—
6	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	II	—
7	—	—	—	Not Occupied	—	—

8	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
9	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
10	0.5	GY/BN	7065	Wheel Speed Sensor Control Right Front	II	—
11	0.5	YE	872	Wheel Speed Sensor Signal Right Front	II	—
12	—	—	—	Not Occupied	—	—
13	5	BK	2150	Ground	III	—
14 - 16	—	—	—	Not Occupied	—	—
17	0.5	L-GN/BN	2087	Combined Vehicle Inertial Sensor Supply Voltage	IV	—
18	0.5	L-GN/GY	333	Brake Fluid Level Sensor Signal	II	—
19	0.5	BN	6305	Brake Vacuum Switch Signal	II	—
20	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
21	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
22 - 23	—	—	—	Not Occupied	—	—
24	0.5	BK/YE	6032	Brake Vacuum Sensor Low Reference	II	—
25	2.5	RD/VT	1640	Battery Positive Voltage	I	—
26 - 27	—	—	—	Not Occupied	—	—
28	0.5	WH/D-BU	5986	Serial Data Communication Enable	II	—
29	0.5	GY/BK	7127	Wheel Speed Sensor Control Left Rear	II	—

30	0.5	D-BU	884	Wheel Speed Sensor Signal Left Rear	II	—
31	—	—	—	Not Occupied	—	—
32	0.5	YE/RD	6031	Brake Vacuum Sensor 5 Volt Reference	II	—
33	0.5	L-GN/WH	817	Vehicle Speed Signal	II	—
34	0.5	YE/VT	6030	Brake Vacuum Sensor Signal	II	—
35	0.5	GY/WH	7064	Wheel Speed Sensor Control Left Front	II	—
36	0.5	GY	830	Wheel Speed Sensor Signal Left Front	II	—
37	—	—	—	Not Occupied	—	—
38	2.5	BK	2150	Ground	I	—

K19 Suspension Control Module



Connector Part Information

Harness Type: Chassis

OEM Connector: 15491306

Service Connector: 19168025

Description: 47-Way F 0.64, 6.3 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578883	J-35616-64B (LT BU)	J-38125-215A	SAITS-A03T-M064	24	9	9
II	13579754	J-35616-42 (RD)	J-38125-553	15476168	13	F	3
III	13579754	J-35616-42 (RD)	J-38125-553	Not Available	Not Available	Not Available	Not Available
IV	13579755	J-35616-42 (RD)	J-38125-553	15476168	13	F	3
V	13579766	J-35616-64B (LT BU)	J-38125-215A	SAITS-A03T-M064	24	9	9

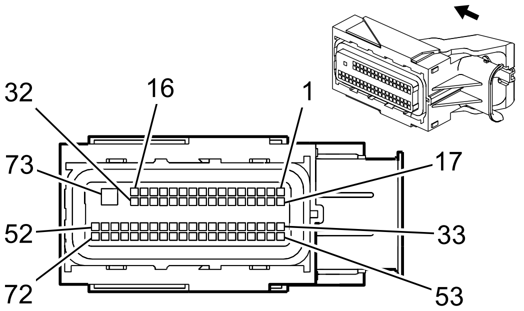
K19 Suspension Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	BK/L-GN	1209	Left Rear Strut Position Sensor Low Reference	I	—
3	0.5	YE/WH	1213	Right Front Strut Position Sensor Signal	I	—
4	—	—	—	Not Occupied	—	—
5	0.5	BK/YE	1215	Right Rear Strut Position Sensor Low Reference	I	—
6	0.5	BN/WH	1207	Left Front Strut Position Sensor Signal	I	—
7 - 11	—	—	—	Not Occupied	—	—

12	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	I	—
13	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	I	—
14	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	I	—
15	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	I	—
16	0.75	WH/D-BU	5986	Serial Data Communication Enable	III	—
17	0.5	L-GN/WH	1210	Left Rear Strut Position Sensor Signal	I	—
18	0.5	BK/GY	1212	Right Front Strut Position Sensor Low Reference	I	—
19	—	—	—	Not Occupied	—	—
20	0.5	L-GN/GY	1216	Right Rear Strut Position Sensor Signal	I	—
21	0.5	BK/D-BU	1206	Left Front Strut Position Sensor Low Reference	I	—
22 - 23	—	—	—	Not Occupied	—	—
24	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
25	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
26	—	—	—	Not Occupied	—	—
27	0.75	BN	1009	Right Front Strut Motor Decrease Damping Control	V	—
28	0.75	WH/BK	1006	Right Front Strut Motor Increase Damping Control	V	—
29	—	—	—	Not Occupied	—	—
30	0.75	WH/L-GN	1005	Left Front Strut Motor Decrease Damping Control	V	—

31	0.75	WH/GY	1448	Left Front Strut Motor Increase Damping Control	V	—
32	3	RD/L-GN	2440	Battery Positive Voltage	II	—
33	0.5	YE/RD	1208	Left Rear Strut Position Sensor 5 Volt Reference	I	—
34	0.5	BN/RD	1211	Right Front Strut Position Sensor 5 Volt Reference	I	—
35	0.5	L-GN/RD	1214	Right Rear Strut Position Sensor 5 Volt Reference	I	—
36	0.5	D-BU/RD	1205	Left Front Strut Position Sensor 5 Volt Reference	I	—
37 - 38	—	—	—	Not Occupied	—	—
39	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
40	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
41	—	—	—	Not Occupied	—	—
42	0.75	WH/BK	1013	Left Rear Strut Motor Decrease Damping Control	V	—
43	0.75	BN/VT	1010	Left Rear Strut Motor Increase Damping Control	V	—
44	—	—	—	Not Occupied	—	—
45	0.75	VT	1017	Right Rear Strut Motor Decrease Damping Control	V	—
46	0.75	YE	1014	Right Rear Strut Motor Increase Damping Control	V	—
47	4	BK	1750	Ground	IV	—

K20 Engine Control Module X1 (L8B)



Connector Part Information

Harness Type: Engine

OEM Connector: 33178539

Service Connector: 19260919

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with D-BU Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J
II	13579770	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5

K20 Engine Control Module X1 (L8B)

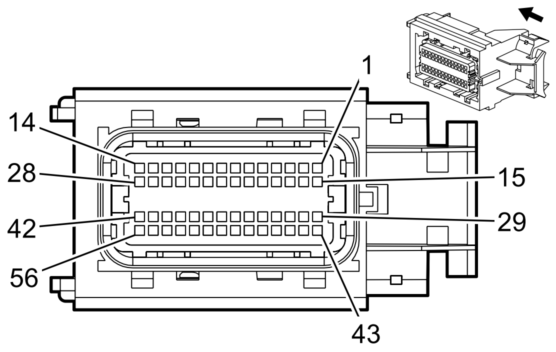
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	D-BU/WH	7446	Fuel Line Pressure Sensor Signal	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	YE/WH	3200	Throttle Inlet Absolute Pressure Sensor Signal	I	—
5	0.5	WH/RD	3201	Throttle Inlet Absolute Pressure Sensor 5 Volt Reference	I	—
6	0.5	L-GN	380	A/C Refrigerant Pressure Sensor Signal	I	—
7	—	—	—	Not Occupied	—	—
8	0.5	BK/YE	7447	Fuel Line Pressure Sensor Low Reference	I	—
9	0.5	D-BU/WH	890	Fuel Tank Pressure Sensor Signal	I	—

10	0.5	YE/RD	2709	Fuel Tank Pressure Sensor 5 Volt Reference	I	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.5	D-BU/GY	636	Outside Ambient Air Temperature Sensor Signal	I	—
14	0.5	WH/RD	1164	Accelerator Pedal Position 5 Volt Reference (1)	I	—
15	0.5	YE/WH	1161	Accelerator Pedal Position Signal (1)	I	—
16 - 20	—	—	—	Not Occupied	—	—
21	0.5	BN/RD	2700	A/C Pressure Sensor 5 Volt Reference	I	—
22	0.5	BK/BN	5514	A/C Refrigerant Pressure Sensor Low Reference	I	—
23	—	—	—	Not Occupied	—	—
24	0.5	BN/RD	7445	Fuel Line Pressure Sensor 5 Volt Reference	I	—
25	0.5	D-BU/VT	1589	Primary Fuel Level Sensor Signal	I	—
26	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	I	—
27 - 29	—	—	—	Not Occupied	—	—
30	0.5	BK/D-BU	1271	Accelerator Pedal Position Low Reference (1)	I	—
31	—	—	—	Not Occupied	—	—
32	0.5	WH/GY	459	A/C Compressor Clutch Relay Control	I	—
33	0.5	BN/RD	1274	Accelerator Pedal Position 5 Volt Reference (2)	I	—
34	0.5	L-GN/WH	1162	Accelerator Pedal Position Signal (2)	I	—
35	—	—	—	Not Occupied	—	—

35	—	—	—	Not Occupied	—	—
36	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—
37	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—
38	0.5	WH	1579	Fuel Temperature/Composition Signal	I	—
39	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
40	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
41 - 43	—	—	—	Not Occupied	—	—
44	0.5	GY	5660	Fuel Pump Controller Data Out Signal	I	—
45	—	—	—	Not Occupied	—	—
46	0.5	BN/WH	419	Check Engine Indicator Control	I	—
47 - 50	—	—	—	Not Occupied	—	—
51	0.5	VT/L-GN	439	Run/Crank Ignition 1 Voltage	I	—
52	0.5	RD/BN	440	Battery Positive Voltage	I	—
53	0.5	BK/PU	1272	Accelerator Pedal Position Low Reference (2)	I	—
54	0.5	L-GN/VT	4621	Local Interconnect Network Serial Data Bus 21	I	—
55 - 56	—	—	—	Not Occupied	—	—
57	0.5	WH/D-BU	6311	Cruise/ETC/TCC Brake Signal	I	—
58	—	—	—	Not Occupied	—	—
59	0.5	BN/YE	473	High Speed Cooling Fan Relay Control	I	—
60 - 61	—	—	—	Not Occupied	—	—

60 - 61	—	—	—	Not Occupied	—	—
62	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	I	—
63	0.5	YE/BK	625	Starter Enable Relay Control	I	—
64 - 65	—	—	—	Not Occupied	—	—
66	0.5	WH	1310	EVAP Canister Vent Solenoid Control	I	—
67	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	I	—
68 - 69	—	—	—	Not Occupied	—	—
70	0.5	VT/YE	5985	Accessory Wakeup Serial Data	I	—
71	—	—	—	Not Occupied	—	—
72	0.5	YE	5991	Powertrain Relay Coil Control	I	—
73	2.5	VT/D-BU	5290	Powertrain Main Relay Fused Supply (1)	II	—

K20 Engine Control Module X1 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 13820449

Service Connector: 19329930

Description: 56-Way F 0.64 I Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J

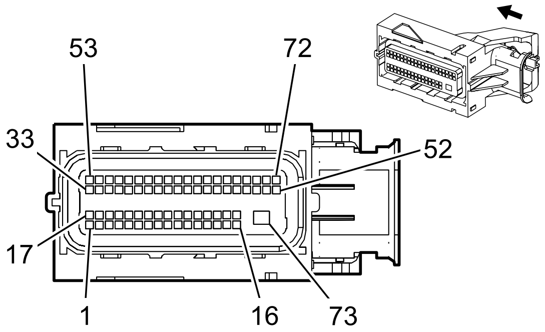
K20 Engine Control Module X1 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	L-GN/WH	1162	Accelerator Pedal Position Signal (2)	I	—
3	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	I	—
4	0.5	GY/BK	1694	Four Wheel Drive Low Signal	I	—
5	0.5	YE/WH	1695	Four Wheel Drive Wheel Lock Indicator Control	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.5	GY/D-BU	7564	Humidity Sensor Signal	I	—
9	—	—	—	Not Occupied	—	—
10	0.5	YE/WH	1161	Accelerator Pedal Position Signal (1)	I	—

11	0.5	YE/WH	3200	Throttle Inlet Absolute Pressure Sensor Signal	I	—
12	0.5	L-GN	380	A/C Refrigerant Pressure Sensor Signal	I	—
13	0.5	BK/BN	5514	A/C Refrigerant Pressure Sensor Low Reference	I	—
14	0.5	YE/D-BU	1465	Secondary Fuel Pump Relay Control	I	—
15	—	—	—	Not Occupied	—	—
16	0.5	BN/RD	1274	Accelerator Pedal Position 5 Volt Reference (2)	I	—
17	—	—	—	Not Occupied	—	—
18	0.5	VT/YE	5985	Accessory Wakeup Serial Data	I	—
19	0.5	VT/L-GN	439	Run/Crank Ignition 1 Voltage	I	—
20	0.5	RD/BN	440	Battery Positive Voltage	I	—
21 - 23	—	—	—	Not Occupied	—	—
24	0.5	WH/RD	1164	Accelerator Pedal Position 5 Volt Reference (1)	I	—
25	0.5	WH/RD	3201	Throttle Inlet Absolute Pressure Sensor 5 Volt Reference	I	—
26	0.5	BN/RD	2700	A/C Pressure Sensor 5 Volt Reference	I	—
27	0.5	YE/BK	625	Starter Enable Relay Control	I	—
28	0.5	L-GN/GY	465	Fuel Pump Primary Relay Control	I	—
29	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
30	0.5	BK/PU	1272	Accelerator Pedal Position Low Reference (2)	I	—

31	0.5	BK/PU	2760	Intake Air Temperature Sensor Low Reference	I	—
32	—	—	—	Not Occupied	—	—
33	0.5	WH/D-BU	6311	Cruise/ETC/TCC Brake Signal	I	—
34	0.5	WH/GY	1786	Transmission Park/Neutral Signal (1)	I	—
35 - 37	—	—	—	Not Occupied	—	—
38	0.5	BK/D-BU	1271	Accelerator Pedal Position Low Reference (1)	I	—
39	—	—	—	Not Occupied	—	—
40	0.5	YE	5991	Powertrain Relay Coil Control	I	—
41 - 42	—	—	—	Not Occupied	—	—
43	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
44	—	—	—	Not Occupied	—	—
45	0.5	WH/D-BU	6289	Induction Air Temperature Sensor Signal	I	—
46	—	—	—	Not Occupied	—	—
47	0.5	BN	25	Charge Indicator Control	I	—
48 - 51	—	—	—	Not Occupied	—	—
52	0.5	BN/WH	419	Check Engine Indicator Control	I	—
53	0.5	WH/GY	459	A/C Compressor Clutch Relay Control	I	—
54 - 55	—	—	—	Not Occupied	—	—
56	0.5	WH	1310	EVAP Canister Vent Solenoid Control	I	—

K20 Engine Control Module X1 (LML)



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13869716

Service Connector: 13574946

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK w/ BU Terminal Postion Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J
II	13579770	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5

K20 Engine Control Module X1 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN/WH	3100	DEF Dosing Valve Low Control	I	—
2	0.75	BN	3099	DEF Dosing Valve High Control	I	—
3	0.5	D-BU	3105	DEF Smart Pump Control	I	—
4	—	—	—	Not Occupied	—	—
5	0.5	YE/BK	625	Starter Enable Relay Control	I	—
6	0.75	L-GN	3101	DEF Reverting Valve High Control	I	—
7	0.5	BK/D-BU	6783	Exhaust Gas Temperature Sensor 2 Low Reference	I	—
8	—	—	—	Not Occupied	—	—

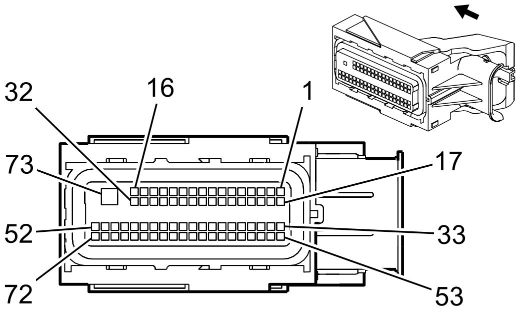
9	0.5	WH/D-BU	6311	Cruise/ETC/TCC Brake Signal	I	—
10	0.5	YE/WH	1695	Four Wheel Drive Wheel Lock Indicator Control	I	—
11	0.5	GY/BK	1694	Four Wheel Drive Low Signal	I	—
12 - 13	—	—	—	Not Occupied	—	—
14	0.5	GY/RD	2365	Cooling Fan Speed 5 Volt Reference	I	—
15	0.5	BK/GY	2931	Mass Air Flow Sensor Low Reference	I	—
16	0.5	BK/D-BU	6288	Induction Air Temperature Sensor Low Reference	I	—
17	0.5	BN/WH	419	Check Engine Indicator Control	I	—
18	0.5	VT/BN	2927	Hydrocarbon Injector Low Control	I	—
19	0.5	WH/BK	2366	Cooling Fan Control Relay Speed Signal	I	—
20	0.5	L-GN/BN	507	Wait To Start Indicator Control	I	—
21	—	—	—	Not Occupied	—	—
22	0.5	BK/L-GN	3657	Exhaust Gas Temperature Sensor 3 Low Reference	I	—
23 - 24	—	—	—	Not Occupied	—	—
25	0.5	WH/GY	1786	Transmission Park/Neutral Signal (1)	I	—
26	0.5	VT/YE	5985	Accessory Wakeup Serial Data	I	—
27	0.5	BK/PU	3661	Exhaust Gas Temperature Sensor 5 Low Reference	I	—
28	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	I	—

29	0.5	BN/YE	3108	DEF Pressure Sensor Signal	I	—
30	0.5	YE/RD	3106	DEF Pressure Sensor 5 Volt Reference	I	—
31	0.5	BK/L-GN	3107	DEF Pressure Sensor Low Reference	I	—
32	—	—	—	Not Occupied	—	—
33	0.5	BN/D-BU	2926	Hydrocarbon Injector High Control	I	—
34	0.5	WH/GY	459	A/C Compressor Clutch Relay Control	I	—
35	0.5	BK/PU	3104	DEF Smart Pump Low Reference	I	—
36	0.5	BK/BN	5514	A/C Refrigerant Pressure Sensor Low Reference	I	—
37	—	—	—	Not Occupied	—	—
38	0.5	D-BU/L-GN	5377	Exhaust Gas Temperature Sensor (2)	I	—
39	0.5	L-GN/WH	1162	Accelerator Pedal Position Signal (2)	I	—
40	0.5	WH/D-BU	6289	Induction Air Temperature Sensor Signal	I	—
41	0.5	D-BU	6053	Exhaust Pressure Sensor Signal (1)	I	—
42	0.5	WH/RD	1164	Accelerator Pedal Position 5 Volt Reference (1)	I	—
43	0.5	WH/RD	6054	Exhaust Pressure Sensor 5 Volt Reference (1)	I	—
44	0.5	BK/YE	6055	Exhaust Pressure Sensor Low Reference (1)	I	—
45	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—

46	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
47	—	—	—	Not Occupied	—	—
48	0.5	VT/L-GN	439	Run/Crank Ignition 1 Voltage	I	—
49	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	I	—
50	0.75	BN	25	Charge Indicator Control	I	—
51	0.5	BK/PU	1272	Accelerator Pedal Position Low Reference (2)	I	—
52	—	—	—	Not Occupied	—	—
53	0.75	WH/BK	3102	DEF Reverting Valve Low Control	I	—
54	0.5	GY	3103	DEF Smart Pump Control	I	—
55	0.5	BK/D-BU	1271	Accelerator Pedal Position Low Reference (1)	I	—
56	0.5	D-BU/GY	3660	Exhaust Gas Temperature Sensor 5 Signal	I	—
57	0.5	GY/L-GN	5378	Exhaust Gas Temperature Sensor (3)	I	—
58	0.5	D-BU/VT	1589	Primary Fuel Level Sensor Signal	I	—
59	0.5	L-GN	380	A/C Refrigerant Pressure Sensor Signal	I	—
60	—	—	—	Not Occupied	—	—
61	0.5	YE/WH	1161	Accelerator Pedal Position Signal (1)	I	—
62	0.5	BN/RD	1274	Accelerator Pedal Position 5 Volt Reference (2)	I	—

63	0.5	BN/RD	2700	A/C Pressure Sensor 5 Volt Reference	I	—
64	—	—	—	Not Occupied	—	—
65	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—
66	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
67	0.5	RD/BN	440	Battery Positive Voltage	I	—
68	0.5	YE	5991	Powertrain Relay Coil Control	I	—
69	0.5	D-BU/VT	2364	Cooling Fan Speed Signal	I	—
70	0.75	GY	23	Generator Field Duty Cycle Signal	I	—
71	0.5	BK/BN	6141	Cooling Fan Speed Low Reference	I	—
72	—	—	—	Not Occupied	—	—
73	2.5	VT/D-BU	5290	Powertrain Main Relay Fused Supply (1)	II	—

K20 Engine Control Module X1 (NQG)



Connector Part Information

Harness Type: Engine

OEM Connector: 33157052

Service Connector: Pending

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with D-BU Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	N/A	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5
II	Pending	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J

K20 Engine Control Module X1 (NQG)

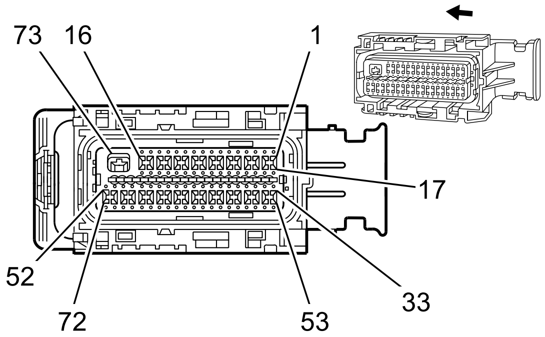
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	D-BU/WH	7446	Fuel Line Pressure Sensor Signal	II	—
3	—	—	—	Not Occupied	—	—
4	0.5	YE/WH	3200	Throttle Inlet Absolute Pressure Sensor Signal	II	—
5	0.5	WH/RD	3201	Throttle Inlet Absolute Pressure Sensor 5 Volt Reference	II	—
6	0.5	L-GN	380	A/C Refrigerant Pressure Sensor Signal	II	—
7	—	—	—	Not Occupied	—	—
8	0.5	BK/YE	7447	Fuel Line Pressure Sensor Low Reference	II	—
9	0.5	D-BU/WH	890	Fuel Tank Pressure Sensor Signal	II	—

10	0.5	YE/RD	2709	Fuel Tank Pressure Sensor 5 Volt Reference	II	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.5	D-BU/GY	636	Outside Ambient Air Temperature Sensor Signal	II	—
14	0.5	WH/RD	1164	Accelerator Pedal Position 5 Volt Reference (1)	II	—
15	0.5	YE/WH	1161	Accelerator Pedal Position Signal (1)	II	—
16 - 20	—	—	—	Not Occupied	—	—
21	0.5	BN/RD	2700	A/C Pressure Sensor 5 Volt Reference	II	—
22	0.5	BK/BN	5514	A/C Refrigerant Pressure Sensor Low Reference	II	—
23	—	—	—	Not Occupied	—	—
24	0.5	BN/RD	7445	Fuel Line Pressure Sensor 5 Volt Reference	II	—
25	0.5	D-BU/VT	1589	Primary Fuel Level Sensor Signal	II	—
26	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	II	—
27 - 29	—	—	—	Not Occupied	—	—
30	0.5	BK/D-BU	1271	Accelerator Pedal Position Low Reference (1)	II	—
31	—	—	—	Not Occupied	—	—
32	0.5	WH/GY	459	A/C Compressor Clutch Relay Control	II	—
33	0.5	BN/RD	1274	Accelerator Pedal Position 5 Volt Reference (2)	II	—
34	0.5	L-GN/WH	1162	Accelerator Pedal Position Signal (2)	II	—
35	—	—	—	Not Occupied	—	—

35	—	—	—	Not Occupied	—	—
36	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	II	—
37	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	II	—
38	0.5	WH	1579	Fuel Temperature/Composition Signal	II	—
39	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
40	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
41 - 43	—	—	—	Not Occupied	—	—
44	0.5	GY	5660	Fuel Pump Controller Data Out Signal	II	—
45	—	—	—	Not Occupied	—	—
46	0.5	BN/WH	419	Check Engine Indicator Control	II	—
47	0.5	WH	5359	Brake Apply Sensor Control	II	—
48	0.5	D-BU/YE	5361	Brake Apply Sensor Signal	II	—
49 - 50	—	—	—	Not Occupied	—	—
51	0.5	VT/L-GN	439	Run/Crank Ignition 1 Voltage	II	—
52	0.5	RD/BN	440	Battery Positive Voltage	II	—
53	0.5	BK/PU	1272	Accelerator Pedal Position Low Reference (2)	II	—
54 - 56	—	—	—	Not Occupied	—	—
57	0.5	WH/D-BU	6311	Cruise/ETC/TCC Brake Signal	II	—
58	—	—	—	Not Occupied	—	—

59	0.5	BN/YE	473	High Speed Cooling Fan Relay Control	II	—
60	0.5	YE/WH	1695	Four Wheel Drive Wheel Lock Indicator Control	II	—
61	0.5	GY/BK	1694	Four Wheel Drive Low Signal	II	—
62	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	II	—
63	0.5	YE/BK	625	Starter Enable Relay Control	II	—
64 - 65	—	—	—	Not Occupied	—	—
66	0.5	WH	1310	EVAP Canister Vent Solenoid Control	II	—
67	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	II	—
68	0.5	BK/BN	5360	Brake Apply Sensor Low Reference	II	—
69	—	—	—	Not Occupied	—	—
70	0.5	VT/YE	5985	Accessory Wakeup Serial Data	II	—
71	—	—	—	Not Occupied	—	—
72	0.5	YE	5991	Powertrain Relay Coil Control	II	—
73	2.5	VT/D-BU	5290	Powertrain Main Relay Fused Supply (1)	I	—

K20 Engine Control Module X1 (NQH)



Connector Part Information

Harness Type: Engine

OEM Connector: 33157051

Service Connector: Pending

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	N/A	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5
II	Pending	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J

K20 Engine Control Module X1 (NQH)

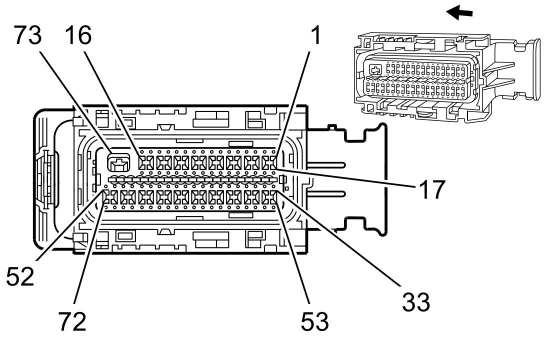
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	D-BU/WH	7446	Fuel Line Pressure Sensor Signal	II	—
3	—	—	—	Not Occupied	—	—
4	0.5	YE/WH	3200	Throttle Inlet Absolute Pressure Sensor Signal	II	—
5	0.5	WH/RD	3201	Throttle Inlet Absolute Pressure Sensor 5 Volt Reference	II	—
6	0.5	L-GN	380	A/C Refrigerant Pressure Sensor Signal	II	—
7	—	—	—	Not Occupied	—	—
8	0.5	BK/YE	7447	Fuel Line Pressure Sensor Low Reference	II	—
9	0.5	D-BU/WH	890	Fuel Tank Pressure Sensor Signal	II	—

10	0.5	YE/RD	2709	Fuel Tank Pressure Sensor 5 Volt Reference	II	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.5	D-BU/GY	636	Outside Ambient Air Temperature Sensor Signal	II	—
14	0.5	WH/RD	1164	Accelerator Pedal Position 5 Volt Reference (1)	II	—
15	0.5	YE/WH	1161	Accelerator Pedal Position Signal (1)	II	—
16 - 20	—	—	—	Not Occupied	—	—
21	0.5	BN/RD	2700	A/C Pressure Sensor 5 Volt Reference	II	—
22	0.5	BK/BN	5514	A/C Refrigerant Pressure Sensor Low Reference	II	—
23	—	—	—	Not Occupied	—	—
24	0.5	BN/RD	7445	Fuel Line Pressure Sensor 5 Volt Reference	II	—
25	0.5	D-BU/VT	1589	Primary Fuel Level Sensor Signal	II	—
26	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	II	—
27 - 29	—	—	—	Not Occupied	—	—
30	0.5	BK/D-BU	1271	Accelerator Pedal Position Low Reference (1)	II	—
31	—	—	—	Not Occupied	—	—
32	0.5	WH/GY	459	A/C Compressor Clutch Relay Control	II	—
33	0.5	BN/RD	1274	Accelerator Pedal Position 5 Volt Reference (2)	II	—
34	0.5	L-GN/WH	1162	Accelerator Pedal Position Signal (2)	II	—
35	—	—	—	Not Occupied	—	—

35	—	—	—	Not Occupied	—	—
36	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	II	—
37	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	II	—
38	0.5	WH	1579	Fuel Temperature/Composition Signal	II	—
39	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
40	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
41 - 43	—	—	—	Not Occupied	—	—
44	0.5	GY	5660	Fuel Pump Controller Data Out Signal	II	—
45	—	—	—	Not Occupied	—	—
46	0.5	BN/WH	419	Check Engine Indicator Control	II	—
47	0.5	WH	5359	Brake Apply Sensor Control	II	—
	0.5	GY/RD	6109	Clutch Apply Sensor 5 Volt Reference		—
48	0.5	D-BU/YE	5361	Brake Apply Sensor Signal	II	—
	0.5	YE	6111	Clutch Apply Sensor Signal		—
49 - 50	—	—	—	Not Occupied	—	—
51	0.5	VT/L-GN	439	Run/Crank Ignition 1 Voltage	II	—
52	0.5	RD/BN	440	Battery Positive Voltage	II	—
53	0.5	BK/PU	1272	Accelerator Pedal Position Low Reference (2)	II	—
54 - 56	—	—	—	Not Occupied	—	—

57	0.5	WH/D-BU	6311	Cruise/ETC/TCC Brake Signal	II	—
58	—	—	—	Not Occupied	—	—
59	0.5	BN/YE	473	High Speed Cooling Fan Relay Control	II	—
60 - 61	—	—	—	Not Occupied	—	—
62	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	II	—
63	0.5	YE/BK	625	Starter Enable Relay Control	II	—
64 - 65	—	—	—	Not Occupied	—	—
66	0.5	WH	1310	EVAP Canister Vent Solenoid Control	II	—
67	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	II	—
68	0.5	BK/BN	5360	Brake Apply Sensor Low Reference	II	—
	0.5	BK/GY	6110	Clutch Apply Sensor Low Reference		—
69	—	—	—	Not Occupied	—	—
70	0.5	VT/YE	5985	Accessory Wakeup Serial Data	II	—
71	—	—	—	Not Occupied	—	—
72	0.5	YE	5991	Powertrain Relay Coil Control	II	—
73	2.5	VT/D-BU	5290	Powertrain Main Relay Fused Supply (1)	I	—

K20 Engine Control Module X2 (L83 with MYC except NQH/NQG)



Connector Part Information

Harness Type: Engine

OEM Connector: 33157043

Service Connector: 19301191

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with BK Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J
II	13579770	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5

K20 Engine Control Module X2 (L83 with MYC except NQH/NQG)

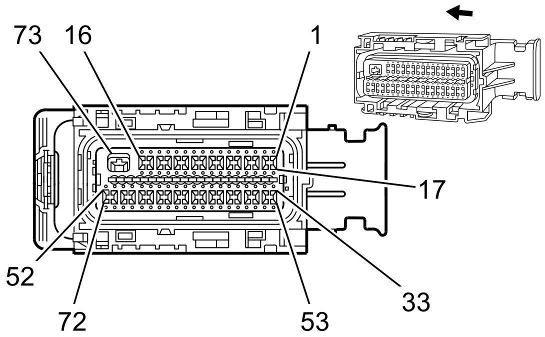
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	BK/L-GN	2919	Fuel Rail Pressure Sensor Low Reference	I	—
4 - 7	—	—	—	Not Occupied	—	—
8	0.5	BN/WH	6354	Output Speed High (Replicated TOS) Input Signal	I	—
9	—	—	—	Not Occupied	—	—
10	0.5	VT/GY	3110	Heated Oxygen Sensor High Signal Bank 1 Sensor (1)	I	—
11	0.5	VT/WH	3210	Heated Oxygen Sensor High Signal Bank 2 Sensor (1)	I	—
12	0.5	VT/D-BU	3120	Heated Oxygen Sensor High Signal Bank 1 Sensor (2)	I	—
13	0.5	VT/L-GN	3220	Heated Oxygen Sensor High Signal Bank 2 Sensor (2)	I	—

14	—	—	—	Not Occupied	—	—
15	0.5	GY/D-BU	7564	Humidity Sensor Signal	I	—
16	0.5	BN/WH	582	Throttle Actuator Control Close	I	—
17	—	—	—	Not Occupied	—	—
18	0.5	BN/RD	2917	Fuel Rail Pressure Sensor 5 Volt Reference	I	—
19	0.5	D-BU/WH	2918	Fuel Rail Pressure Sensor Signal	I	—
20 - 25	—	—	—	Not Occupied	—	—
26	0.5	WH/BK	3111	Heated Oxygen Sensor Low Signal Bank 1 Sensor (1)	I	—
27	0.5	YE/WH	3211	Heated Oxygen Sensor Low Signal Bank 2 Sensor (1)	I	—
28	0.5	WH/YE	3121	Heated Oxygen Sensor Low Signal Bank 1 Sensor (2)	I	—
29	0.5	YE/D-BU	3221	Heated Oxygen Sensor Low Signal Bank 2 Sensor (2)	I	—
30 - 31	—	—	—	Not Occupied	—	—
32	0.5	YE	581	Throttle Actuator Control Open	I	—
33	—	—	—	Not Occupied	—	—
34	0.5	BN/RD	2701	Throttle Position Sensor 5 Volt Reference	I	—
35	—	—	—	Not Occupied	—	—
36	0.75	VT/GY	496	Knock Sensor Signal (1)	I	—
37	0.75	WH/GY	1876	Knock Sensor Signal (2)	I	—
38 - 39	—	—	—	Not Occupied	—	—

40	0.5	VT/D-BU	6091	Crankshaft Position Sensor Replicated Signal	I	—
41	0.5	GY/WH	3113	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (1)	I	—
42	0.5	GY/WH	3122	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (2)	I	—
43	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	I	—
44	0.5	GY/RD	2704	Manifold Absolute Pressure Sensor 5 Volt Reference	I	—
45 - 48	—	—	—	Not Occupied	—	—
49	0.5	WH/D-BU	6289	Induction Air Temperature Sensor Signal	I	—
50	—	—	—	Not Occupied	—	—
51	0.5	L-GN/D-BU	428	EVAP Canister Purge Solenoid Control	I	—
52	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	I	—
53	0.5	BN	25	Charge Indicator Control	I	—
54	0.5	BK/BN	2752	Throttle Position Sensor Low Reference	I	—
55	0.5	GY	23	Generator Field Duty Cycle Signal	I	—
56	0.75	BK/YE	1716	Knock Sensor Low Reference (1)	I	—
57	0.75	BK/GY	2303	Knock Sensor Low Reference (2)	I	—
58	0.5	WH/GY	1786	Transmission Park/Neutral Signal (1)	I	—
59	0.5	D-BU	179	Oil Pump Command Signal	I	—

60	0.5	BN/L-GN	1174	Oil Level Switch Signal	I	—
61	0.5	L-GN/YE	3212	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (1)	I	—
62	0.5	WH/BN	3223	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (2)	I	—
63	0.5	BK/L-GN	469	Manifold Absolute Pressure Sensor Low Reference	I	—
64	—	—	—	Not Occupied	—	—
65	0.5	BK/D-BU	61	Outside Ambient Temperature Sensor Low Reference	I	—
66 - 68	—	—	—	Not Occupied	—	—
69	0.5	WH/YE	3202	Throttle Inlet Absolute Pressure Sensor Low Reference	I	—
70	0.5	D-BU/WH	3630	Throttle Position Sensor (SENT1) Signal	I	—
71 - 72	—	—	—	Not Occupied	—	—
73	2.5	BK/WH	451	Signal Ground	II	—

K20 Engine Control Module X2 (L8B)



Connector Part Information

Harness Type: Engine

OEM Connector: 33178744

Service Connector: 19301191

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J
II	13579770	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5

K20 Engine Control Module X2 (L8B)

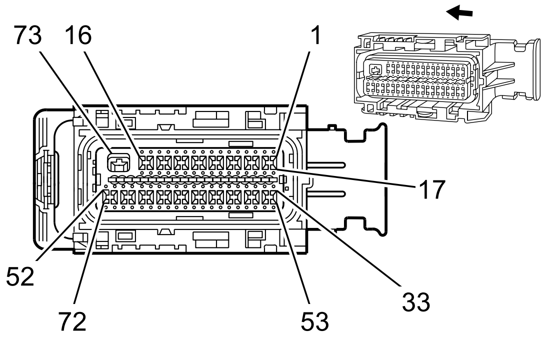
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	BK/L-GN	2919	Fuel Rail Pressure Sensor Low Reference	I	—
4 - 5	—	—	—	Not Occupied	—	—
6	0.5	VT/WH	821	Vehicle Speed Sensor Signal	I	—
7	0.5	BK/L-GN	822	Vehicle Speed Sensor Low Reference	I	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.5	VT/GY	3110	Heated Oxygen Sensor High Signal Bank 1 Sensor (1)	I	—
11	0.5	VT/WH	3210	Heated Oxygen Sensor High Signal Bank 2 Sensor (1)	I	—
12	0.5	VT/D-BU	3120	Heated Oxygen Sensor High Signal Bank 1 Sensor (2)	I	—

13	0.5	VT/L-GN	3220	Heated Oxygen Sensor High Signal Bank 2 Sensor (2)	I	—
14	—	—	—	Not Occupied	—	—
15	0.5	GY/D-BU	7564	Humidity Sensor Signal	I	—
16	0.5	BN/WH	582	Throttle Actuator Control Close	I	—
17	—	—	—	Not Occupied	—	—
18	0.5	BN/RD	2917	Fuel Rail Pressure Sensor 5 Volt Reference	I	—
19	0.5	D-BU/WH	2918	Fuel Rail Pressure Sensor Signal	I	—
20 - 25	—	—	—	Not Occupied	—	—
26	0.5	WH/BK	3111	Heated Oxygen Sensor Low Signal Bank 1 Sensor (1)	I	—
27	0.5	YE/WH	3211	Heated Oxygen Sensor Low Signal Bank 2 Sensor (1)	I	—
28	0.5	WH/YE	3121	Heated Oxygen Sensor Low Signal Bank 1 Sensor (2)	I	—
29	0.5	YE/D-BU	3221	Heated Oxygen Sensor Low Signal Bank 2 Sensor (2)	I	—
30 - 31	—	—	—	Not Occupied	—	—
32	0.5	YE	581	Throttle Actuator Control Open	I	—
33	—	—	—	Not Occupied	—	—
34	0.5	BN/RD	2701	Throttle Position Sensor 5 Volt Reference	I	—
35	—	—	—	Not Occupied	—	—
36	0.75	VT/GY	496	Knock Sensor Signal (1)	I	—
37	0.75	WH/GY	1876	Knock Sensor Signal (2)	I	—

38 - 40	—	—	—	Not Occupied	—	—
41	0.5	GY/WH	3113	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (1)	I	—
42	0.5	GY/WH	3122	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (2)	I	—
43	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	I	—
44	0.5	GY/RD	2704	Manifold Absolute Pressure Sensor 5 Volt Reference	I	—
45 - 46	—	—	—	Not Occupied	—	—
47	0.5	VT/YE	3854	Cabin Heater Coolant Motor Control	I	—
48	—	—	—	Not Occupied	—	—
49	0.5	WH/D-BU	6289	Induction Air Temperature Sensor Signal	I	—
50	—	—	—	Not Occupied	—	—
51	0.5	L-GN/D-BU	428	EVAP Canister Purge Solenoid Control	I	—
52	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	I	—
53	—	—	—	Not Occupied	—	—
54	0.5	BK/BN	2752	Throttle Position Sensor Low Reference	I	—
55	—	—	—	Not Occupied	—	—
56	0.75	BK/YE	1716	Knock Sensor Low Reference (1)	I	—
57	0.75	BK/GY	2303	Knock Sensor Low Reference (2)	I	—
58	0.5	WH/GY	1786	Transmission Park/Neutral Signal (1)	I	—
59	0.5	D-BU	179	Oil Pump Command Signal	I	—

60	0.5	BN/L-GN	1174	Oil Level Switch Signal	I	—
61	0.5	L-GN/YE	3212	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (1)	I	—
62	0.5	WH/BN	3223	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (2)	I	—
63	0.5	BK/L-GN	469	Manifold Absolute Pressure Sensor Low Reference	I	—
64	—	—	—	Not Occupied	—	—
65	0.5	BK/D-BU	61	Outside Ambient Temperature Sensor Low Reference	I	—
66 - 68	—	—	—	Not Occupied	—	—
69	0.5	WH/YE	3202	Throttle Inlet Absolute Pressure Sensor Low Reference	I	—
70	0.5	D-BU/WH	3630	Throttle Position Sensor (SENT1) Signal	I	—
71 - 72	—	—	—	Not Occupied	—	—
73	2.5	BK/WH	451	Signal Ground	II	—

K20 Engine Control Module X2 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 33152986

Service Connector: 19301191

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J
II	13579770	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5

K20 Engine Control Module X2 (L96/LC8)

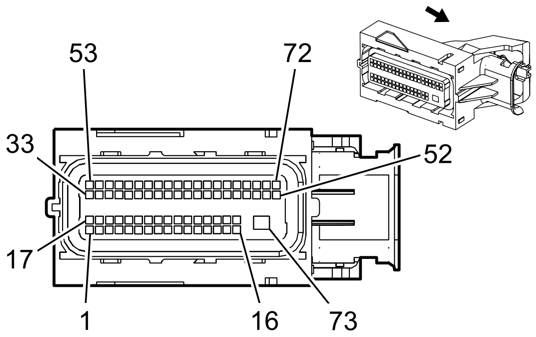
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/VT	2121	Ignition Control (1)	I	—
2	0.5	L-GN/YE	1744	Fuel Injector Control (1)	I	—
3	0.5	BN/GY	878	Fuel Injector Control (8)	I	—
4	0.5	BN/VT	877	Fuel Injector Control (7)	I	—
5	0.5	YE/WH	1745	Fuel Injector Control (2)	I	—
6	0.5	BN/D-BU	846	Fuel Injector Control (6)	I	—
7	0.5	BN/L-GN	845	Fuel Injector Control (5)	I	—

8	0.5	BN/YE	844	Fuel Injector Control (4)	I	—
9	0.5	BN/VT	1746	Fuel Injector Control (3)	I	—
10	—	—	—	Not Occupied	—	—
11	0.5	VT/BN	5284	Camshaft Phaser Intake Solenoid (1)	I	—
12 - 14	—	—	—	Not Occupied	—	—
15	0.5	YE	581	Throttle Actuator Control Open	I	—
16	0.5	BN/WH	582	Throttle Actuator Control Close	I	—
17	0.5	VT/WH	2128	Ignition Control (8)	I	—
18	0.5	YE/D-BU	2124	Ignition Control (4)	I	—
19	0.5	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
20	0.5	BK/PU	6272	Crankshaft 60X Sensor Low Reference	I	—
21 - 23	—	—	—	Not Occupied	—	—
24	0.5	BK/L-GN	5301	Camshaft Position Intake Sensor Low Reference (1)	I	—
25	0.5	BK/PU	2755	Oil Pressure Sensor Low Reference	I	—
26 - 27	—	—	—	Not Occupied	—	—
28	0.75	VT/D-BU	5290	Powertrain Main Relay Fused Supply (1)	I	—
29	0.5	BK/BN	6753	Cam Phaser W Low Reference	I	—
30 - 32	—	—	—	Not Occupied	—	—
33	0.5	L-GN/GY	2127	Ignition Control (7)	I	—

34	0.5	D-BU/GY	2125	Ignition Control (5)	I	—
35	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
36	0.5	VT/D-BU	6270	Crankshaft 60X Sensor 5 Volt Reference	I	—
37 - 39	—	—	—	Not Occupied	—	—
40	0.5	GY/D-BU	5300	Camshaft Position Intake Sensor Control (1)	I	—
41	0.5	WH/RD	2705	Oil Pressure Sensor 5 Volt Reference	I	—
42	—	—	—	Not Occupied	—	—
43	0.5	BN/YE	2701	Throttle Position Sensor 5 Volt Reference	I	—
44	0.5	BK/BN	2752	Throttle Position Sensor Low Reference	I	—
45	0.5	D-BU/WH	3630	Throttle Position Sensor (SENT1) Signal	I	—
46	—	—	—	Not Occupied	—	—
47	0.5	WH/BK	3111	Heated Oxygen Sensor Low Signal Bank 1 Sensor (1)	I	—
48	0.5	YE/WH	3211	Heated Oxygen Sensor Low Signal Bank 2 Sensor (1)	I	—
49	0.75	BK/YE	1716	Knock Sensor Low Reference (1)	I	—
50	0.75	BK/GY	2303	Knock Sensor Low Reference (2)	I	—
51	—	—	—	Not Occupied	—	—
52	0.5	L-GN/YE	3212	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (1)	I	—
53	0.5	D-BU/WH	2122	Ignition Control (2)	I	—

54	0.5	BN/D-BU	2126	Ignition Control (6)	I	—
55	0.5	L-GN/D-BU	2123	Ignition Control (3)	I	—
56	0.5	L-GN	6271	Crankshaft 60X Sensor Signal	I	—
57 - 59	—	—	—	Not Occupied	—	—
60	0.5	YE/VT	5275	Camshaft Position Intake Sensor (1)	I	—
61	0.5	YE/BN	331	Oil Pressure Sensor Signal	I	—
62 - 66	—	—	—	Not Occupied	—	—
67	0.5	VT/GY	3110	Heated Oxygen Sensor High Signal Bank 1 Sensor (1)	I	—
68	0.5	VT/WH	3210	Heated Oxygen Sensor High Signal Bank 2 Sensor (1)	I	—
69	0.75	VT/GY	496	Knock Sensor Signal (1)	I	—
70	0.75	WH/GY	1876	Knock Sensor Signal (2)	I	—
71	—	—	—	Not Occupied	—	—
72	0.5	GY/WH	3113	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (1)	I	—
73	2.5	BK/WH	451	Signal Ground	II	—

K20 Engine Control Module X2 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 12603596

Service Connector: 13574947

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with BK Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13579770	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5
II	19301532	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	K	K
III	19330179	J-35616-64A (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

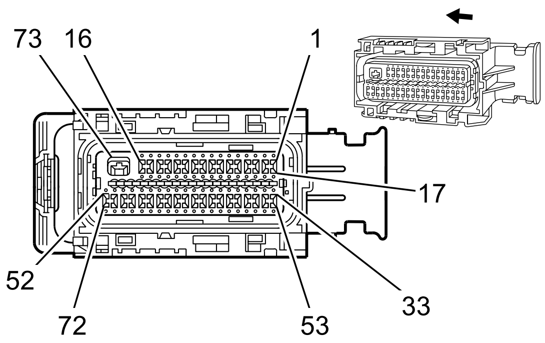
K20 Engine Control Module X2 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN	497	Fuel Pump Secondary Relay Control	III	LML
2	—	—	—	Not Occupied	—	—
3	0.5	YE	2928	Fuel Metering Valve High Control	III	LML
4	0.8	VT/WH	2530	Fuel Rail Pressure Solenoid Control	II	LML
5	0.5	BK	2929	Fuel Metering Valve Low Control	III	LML
6	0.5	WH	5931	Variable Nozzle Turbo Solenoid Low Signal	III	LML
7	0.5	—	2752	Throttle Position Sensor Low Reference	III	LML

8	0.5	—	2753	Exhaust Gas Recirculation Sensor Low Reference	III	LML
9	0.5	BR	1174	Oil Level Switch Signal	III	LML
10	0.5	BR	6782	Exhaust Gas Temperature Sensor 1 Low Reference	III	LML
11	0.5	—	3653	EGR Cooler Bypass Position Sensor Low Reference	III	LML
12	—	—	—	Not Occupied	—	—
13	0.8	BR/WH	4901	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 1	II	LML
14	0.8	—	4907	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 7	II	LML
15	0.8	L-BU	4804	Direct Fuel Injector (DFI) High Voltage Control Cylinder 4	II	LML
16	0.8	BR	4801	Direct Fuel Injector (DFI) High Voltage Control Cylinder 1	II	LML
17	0.8	BK/WH	451	Signal Ground	II	LML
18	0.8	BK/WH	451	Signal Ground	II	LML
19	0.8	YE	2834	Fuel Rail Pressure Solenoid Low Reference	II	LML
20	—	—	—	Not Occupied	—	—
21	0.8	BK/WH	451	Signal Ground	II	LML
22	0.5	BU	5930	Variable Nozzle Turbo Solenoid High Signal	III	LML
23	—	—	—	Not Occupied	—	—
24	0.5	BK/BU	61	Outside Ambient Temperature Sensor Low Reference	III	LML
25	0.5	OR/BK	5929	Variable Nozzle Turbo Position Sensor Low Reference	III	LML

26	0.5	L-BU/BK	6813	Coolant Temperature Sensor 2 Low Reference	III	LML
27 - 28	—	—	—	Not Occupied	—	—
29	0.8	L-BU/WH	4904	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 4	II	LML
30	0.8	VT/WH	4906	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 6	II	LML
31	0.8	—	4807	Direct Fuel Injector (DFI) High Voltage Control Cylinder 7	II	LML
32	0.8	VT	4806	Direct Fuel Injector (DFI) High Voltage Control Cylinder 6	II	LML
33 - 40	—	—	—	Not Occupied	—	—
41	0.5	BK	2755	Oil Pressure Sensor Low Reference	III	LML
42 - 46	—	—	—	Not Occupied	—	—
47	0.5	GY	2702	Exhaust Gas Recirculation 5 Volt Reference (2)	III	LML
48	0.5	GY	3652	EGR Cooler Bypass Position Sensor 5 Volt Reference	III	LML
49 - 65	—	—	—	Not Occupied	—	—
66	0.5	—	5928	Variable Nozzle Turbo Position Sensor 5 Volt Reference	III	LML
67	0.5	VT/WH	6270	Crankshaft 60X Sensor 5 Volt Reference	III	LML
68 - 72	—	—	—	Not Occupied	—	—
73	3	BK/WH	451	Signal Ground	I	LML

K20 Engine Control Module X2 (NQH/NQG)



Connector Part Information

Harness Type: Engine

OEM Connector: 33157041

Service Connector: Pending

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	N/A	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5
II	Pending	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J

K20 Engine Control Module X2 (NQH/NQG)

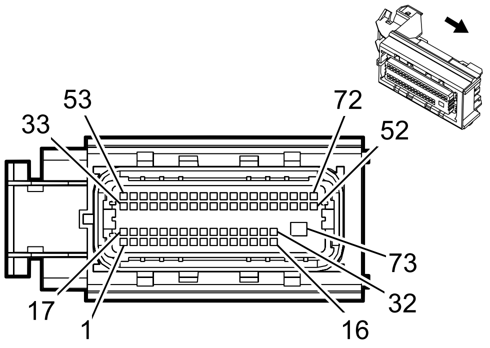
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	BK/L-GN	2919	Fuel Rail Pressure Sensor Low Reference	II	—
4 - 5	—	—	—	Not Occupied	—	—
6	0.5	VT/WH	821	Vehicle Speed Sensor Signal	II	—
7	0.5	BK/L-GN	822	Vehicle Speed Sensor Low Reference	II	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.5	VT/GY	3110	Heated Oxygen Sensor High Signal Bank 1 Sensor (1)	II	—
11	0.5	VT/WH	3210	Heated Oxygen Sensor High Signal Bank 2 Sensor (1)	II	—
12	0.5	VT/D-BU	3120	Heated Oxygen Sensor High Signal Bank 1 Sensor (2)	II	—

13	0.5	VT/L-GN	3220	Heated Oxygen Sensor High Signal Bank 2 Sensor (2)	II	—
14	—	—	—	Not Occupied	—	—
15	0.5	GY/D-BU	7564	Humidity Sensor Signal	II	—
16	0.5	BN/WH	582	Throttle Actuator Control Close	II	—
17	—	—	—	Not Occupied	—	—
18	0.5	BN/RD	2917	Fuel Rail Pressure Sensor 5 Volt Reference	II	—
19	0.5	D-BU/WH	2918	Fuel Rail Pressure Sensor Signal	II	—
20 - 25	—	—	—	Not Occupied	—	—
26	0.5	WH/BK	3111	Heated Oxygen Sensor Low Signal Bank 1 Sensor (1)	II	—
27	0.5	YE/WH	3211	Heated Oxygen Sensor Low Signal Bank 2 Sensor (1)	II	—
28	0.5	WH/YE	3121	Heated Oxygen Sensor Low Signal Bank 1 Sensor (2)	II	—
29	0.5	YE/D-BU	3221	Heated Oxygen Sensor Low Signal Bank 2 Sensor (2)	II	—
30 - 31	—	—	—	Not Occupied	—	—
32	0.5	YE	581	Throttle Actuator Control Open	II	—
33	—	—	—	Not Occupied	—	—
34	0.5	BN/RD	2701	Throttle Position Sensor 5 Volt Reference	II	—
35	—	—	—	Not Occupied	—	—
36	0.75	VT/GY	496	Knock Sensor Signal (1)	II	—
37	0.75	WH/GY	1876	Knock Sensor Signal (2)	II	—

38 - 39	—	—	—	Not Occupied	—	—
40	0.5	VT/D-BU	6091	Crankshaft Position Sensor Replicated Signal	II	—
41	0.5	GY/WH	3113	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (1)	II	—
42	0.5	GY/WH	3122	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (2)	II	—
43	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	II	—
44	0.5	GY/RD	2704	Manifold Absolute Pressure Sensor 5 Volt Reference	II	—
45 - 48	—	—	—	Not Occupied	—	—
49	0.5	WH/D-BU	6289	Induction Air Temperature Sensor Signal	II	—
50	—	—	—	Not Occupied	—	—
51	0.5	L-GN/D-BU	428	EVAP Canister Purge Solenoid Control	II	—
52	0.5	L-GN/WH	492	Mass Air Flow Sensor Signal	II	—
53	0.5	BN	25	Charge Indicator Control	II	—
54	0.5	BK/BN	2752	Throttle Position Sensor Low Reference	II	—
55	0.5	GY	23	Generator Field Duty Cycle Signal	II	—
56	0.75	BK/YE	1716	Knock Sensor Low Reference (1)	II	—
57	0.75	BK/GY	2303	Knock Sensor Low Reference (2)	II	—
58	0.5	WH/GY	1786	Transmission Park/Neutral Signal (1)	II	—

59	0.5	D-BU	179	Oil Pump Command Signal	II	—
60	0.5	BN/L-GN	1174	Oil Level Switch Signal	II	—
61	0.5	L-GN/YE	3212	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (1)	II	—
62	0.5	WH/BN	3223	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (2)	II	—
63	0.5	BK/L-GN	469	Manifold Absolute Pressure Sensor Low Reference	II	—
64	—	—	—	Not Occupied	—	—
65	0.5	BK/D-BU	61	Outside Ambient Temperature Sensor Low Reference	II	—
66 - 68	—	—	—	Not Occupied	—	—
69	0.5	WH/YE	3202	Throttle Inlet Absolute Pressure Sensor Low Reference	II	—
70	0.5	D-BU/WH	3630	Throttle Position Sensor (SENT1) Signal	II	—
71 - 72	—	—	—	Not Occupied	—	—
73	2.5	BK/WH	451	Signal Ground	I	—

K20 Engine Control Module X3 (L83/L86)



Connector Part Information

Harness Type: Engine

OEM Connector: 33157045

Service Connector: 19260918

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with GY Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J
II	13579770	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5

K20 Engine Control Module X3 (L83/L86)

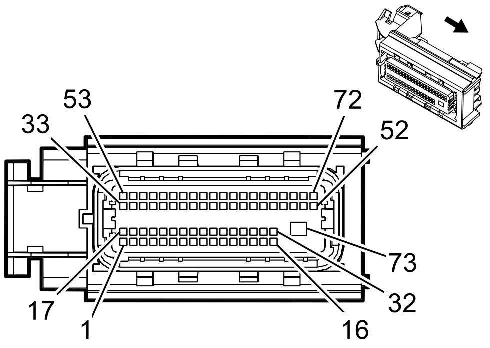
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BN	331	Oil Pressure Sensor Signal	I	—
2	0.5	WH/RD	2705	Oil Pressure Sensor 5 Volt Reference	I	—
3	0.5	BN/YE	2161	Fuel Rail Pressure Sensor 2 Signal	I	—
4 - 7	—	—	—	Not Occupied	—	—
8	0.5	D-BU	410	Engine Coolant Temperature Sensor Signal	I	—
9	—	—	—	Not Occupied	—	—
10	0.5	VT/D-BU	6270	Crankshaft 60X Sensor 5 Volt Reference	I	—
11	0.5	L-GN/D-BU	2123	Ignition Control (3)	I	—

12	0.5	YE/D-BU	2124	Ignition Control (4)	I	—
13	0.5	D-BU/GY	2125	Ignition Control (5)	I	—
14	0.5	BN/D-BU	2126	Ignition Control (6)	I	—
15	0.5	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
16	0.75	YE	7301	High Pressure Fuel Pump Actuator High - Control	I	—
17	0.5	BK/PU	2755	Oil Pressure Sensor Low Reference	I	—
18 - 23	—	—	—	Not Occupied	—	—
24	0.5	BK/BN	2761	Coolant Temperature Sensor Low Reference	I	—
25	0.5	BK/PU	6272	Crankshaft 60X Sensor Low Reference	I	—
26	0.5	L-GN	6271	Crankshaft 60X Sensor Signal	I	—
27	0.5	D-BU/WH	2122	Ignition Control (2)	I	—
28	0.5	L-GN/GY	2127	Ignition Control (7)	I	—
29	0.5	VT/WH	2128	Ignition Control (8)	I	—
30	0.5	D-BU/VT	2121	Ignition Control (1)	I	—
31	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
32	0.75	VT/BK	7300	High Pressure Fuel Pump Actuator Low - Control	I	—
33	0.5	YE/VT	5275	Camshaft Position Intake Sensor (1)	I	—

34	0.5	GY/D-BU	5300	Camshaft Position Intake Sensor Control (1)	I	—
35 - 38	—	—	—	Not Occupied	—	—
39	0.5	VT/BN	5284	Camshaft Phaser Intake Solenoid (1)	I	—
40 - 42	—	—	—	Not Occupied	—	—
43	0.5	GY	5493	Cylinder Shutoff Solenoid Control (3)	I	—
44	0.5	YE/D-BU	5494	Cylinder Shutoff Solenoid Control (4)	I	—
45	0.75	GY/D-BU	4804	Direct Fuel Injector (DFI) High Voltage Control Cylinder 4	I	—
46	0.75	D-BU	4802	Direct Fuel Injector (DFI) High Voltage Control Cylinder 2	I	—
47	0.75	L-GN/VT	4806	Direct Fuel Injector (DFI) High Voltage Control Cylinder 6	I	—
48	0.75	GY	4808	Direct Fuel Injector (DFI) High Voltage Control Cylinder 8	I	—
49	0.75	L-GN	4803	Direct Fuel Injector (DFI) High Voltage Control Cylinder 3	I	—
50	0.75	YE/GY	4807	Direct Fuel Injector (DFI) High Voltage Control Cylinder 7	I	—
51	0.75	WH/L-GN	4805	Direct Fuel Injector (DFI) High Voltage Control Cylinder 5	I	—
52	0.75	BN	4801	Direct Fuel Injector (DFI) High Voltage Control Cylinder 1	I	—
53	0.5	BK/L-GN	5301	Camshaft Position Intake Sensor Low Reference (1)	I	—
54 - 58	—	—	—	Not Occupied	—	—
59	0.5	BK/BN	6753	Cam Phaser W Low Reference	I	—
60 - 62	—	—	—	Not Occupied	—	—

60 - 62	—	—	—	Not Occupied	—	—
63	0.5	D-BU	5491	Cylinder Shutoff Solenoid Control (1)	I	—
64	0.5	L-GN	5492	Cylinder Shutoff Solenoid Control (2)	I	—
65	0.75	D-BU/WH	4904	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 4	I	—
66	0.75	BN/L-GN	4902	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 2	I	—
67	0.75	VT	4906	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 6	I	—
68	0.75	WH/L-GN	4908	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 8	I	—
69	0.75	L-GN/BK	4903	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 3	I	—
70	0.75	WH/YE	4907	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 7	I	—
71	0.75	L-GN/WH	4905	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 5	I	—
72	0.75	BN/WH	4901	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 1	I	—
73	2.5	BK/WH	451	Signal Ground	II	—

K20 Engine Control Module X3 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 33157048

Service Connector: 19260918

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with GY Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J

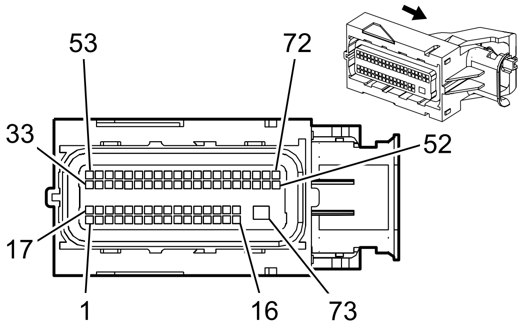
K20 Engine Control Module X3 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/WH	5007	Reverse Switch Signal	I	—
2 - 9	—	—	—	Not Occupied	—	—
10	0.5	L-GN/D-BU	428	EVAP Canister Purge Solenoid Control	I	—
11 - 15	—	—	—	Not Occupied	—	—
16	0.5	WH/BN	3223	Heated Oxygen Sensor Heater Low Control Bank 2 Sensor (2)	I	—
17	0.5	GY	23	Generator Field Duty Cycle Signal	I	—
18 - 21	—	—	—	Not Occupied	—	—
22	0.5	BK/BN	5360	Brake Apply Sensor Low Reference	I	—
	0.5	BK/GY	6110	Clutch Apply Sensor Low Reference		—
23 - 26	—	—	—	Not Occupied	—	—

27	0.5	BK/L-GN	6281	Fuel Level Sensor Low Reference	I	—
28	0.5	GY/RD	2704	Manifold Absolute Pressure Sensor 5 Volt Reference	I	—
29	0.5	BK/L-GN	469	Manifold Absolute Pressure Sensor Low Reference	I	—
30	0.5	BK/BN	2761	Coolant Temperature Sensor Low Reference	I	—
31	—	—	—	Not Occupied	—	—
32	0.5	GY/WH	3122	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (2)	I	—
33 - 37	—	—	—	Not Occupied	—	—
38	0.5	WH	5359	Brake Apply Sensor Control	I	—
	0.5	GY/RD	6109	Clutch Apply Sensor 5 Volt Reference		—
39 - 42	—	—	—	Not Occupied	—	—
43	0.5	YE/RD	2709	Fuel Tank Pressure Sensor 5 Volt Reference	I	—
44	0.5	D-BU/WH	1937	Secondary Fuel Level Sensor Signal	I	—
45	0.5	L-GN/WH	432	Manifold Absolute Pressure Sensor Signal	I	—
46	0.5	D-BU	410	Engine Coolant Temperature Sensor Signal	I	—
47	—	—	—	Not Occupied	—	—
48	0.5	VT/WH	821	Vehicle Speed Sensor Signal	I	—
49	0.5	BK/L-GN	822	Vehicle Speed Sensor Low Reference	I	—
50 - 54	—	—	—	Not Occupied	—	—
55	0.5	BN/WH	6354	Output Speed High (Replicated TOS) Input Signal	I	—

56 - 57	—	—	—	Not Occupied	—	—
58	0.5	D-BU/YE	5361	Brake Apply Sensor Signal	I	—
	0.5	YE	6111	Clutch Apply Sensor Signal		—
59 - 62	—	—	—	Not Occupied	—	—
63	0.5	D-BU/WH	890	Fuel Tank Pressure Sensor Signal	I	—
64	0.5	D-BU/VT	1589	Primary Fuel Level Sensor Signal	I	—
65	0.5	VT/L-GN	3220	Heated Oxygen Sensor High Signal Bank 2 Sensor (2)	I	—
66	0.5	YE/D-BU	3221	Heated Oxygen Sensor Low Signal Bank 2 Sensor (2)	I	—
67	0.5	VT/D-BU	3120	Heated Oxygen Sensor High Signal Bank 1 Sensor (2)	I	—
68	0.5	WH/YE	3121	Heated Oxygen Sensor Low Signal Bank 1 Sensor (2)	I	—
69 - 73	—	—	—	Not Occupied	—	—

K20 Engine Control Module X3 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 12603597

Service Connector: 13574948

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with GY Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13579770	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5
II	19301532	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	K	K
III	19330179	J-35616-64A (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

K20 Engine Control Module X3 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	BU/YE	6861	Water In Fuel Sensor Signal	III	LML
3	0.5	L-BU	1937	Secondary Fuel Level Sensor Signal	III	LML
4	0.5	—	331	Oil Pressure Sensor Signal	III	LML
5	0.5	YE	5361	Brake Apply Sensor Signal	III	LML
6	0.5	VT/WH	7584	Exhaust Gas Recirculation Temperature Sensor 1 Control	III	LML
7	0.5	BU	7583	Exhaust Gas Recirculation Temperature Sensor 2 Control	III	LML

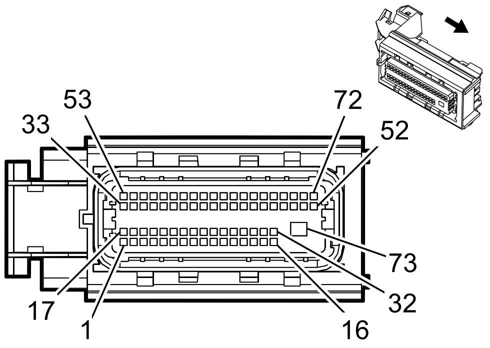
8	0.5	L-GN	2032	Coolant Temperature Sensor Signal	III	LML
9	0.5	BR/WH	5763	Exhaust Gas Recirculation Valve Sensor Signal	III	LML
10	0.5	YE	5947	Variable Nozzle Turbo Position Sensor Signal	III	LML
11	—	—	—	Not Occupied	—	—
12	0.5	BR	3681	Charge Air Cooler Outlet Temperature Sensor Signal	III	LML
13	0.5	—	3680	Charge Air Cooler Outlet Temperature Sensor Low Reference	III	LML
14	0.5	—	2917	Fuel Rail Pressure Sensor 5 Volt Reference	III	LML
15	0.5	WH	5359	Brake Apply Sensor Control	III	LML
16	0.5	GY	2704	Manifold Absolute Pressure Sensor 5 Volt Reference	III	LML
17	0.5	BU	6863	Water In Fuel Sensor Low Reference	III	LML
18	0.5	BU	5277	Exhaust Gas Temperature Sensor (1)	III	LML
19	—	—	—	Not Occupied	—	—
20	0.5	YE	2918	Fuel Rail Pressure Sensor Signal	III	LML
21	0.5	L-GN	432	Manifold Absolute Pressure Sensor Signal	III	LML
22 - 23	—	—	—	Not Occupied	—	—
24	0.5	YE	410	Engine Coolant Temperature Sensor Signal	III	LML
25	0.5	GN/WH	3654	EGR Cooler Bypass Position Sensor Signal	III	LML
26	0.5	BU/GY	636	Outside Ambient Air Temperature Sensor Signal	III	LML

27	0.5	BR/GY	7072	Sensor Fuel Temperature 1 Signal	III	LML
28	0.5	D-GN	3683	Charge Air Cooler Inlet Temperature Sensor Signal	III	LML
29	0.5	—	3682	Charge Air Cooler Inlet Temperature Sensor Low Reference	III	LML
30	0.5	GY	2705	Oil Pressure Sensor 5 Volt Reference	III	LML
31	0.5	BU	6259	Camshaft CAM W Control	III	LML
32	0.5	GY	2701	Throttle Position Sensor 5 Volt Reference	III	LML
33 - 35	—	—	—	Not Occupied	—	—
36	0.5	OR/BK	2919	Fuel Rail Pressure Sensor Low Reference	III	LML
37	0.5	OR/BK	469	Manifold Absolute Pressure Sensor Low Reference	III	LML
38	0.5	BR/WH	5360	Brake Apply Sensor Low Reference	III	LML
39	—	—	—	Not Occupied	—	—
40	0.5	—	2761	Coolant Temperature Sensor Low Reference	III	LML
41	0.5	L-BU	7564	Humidity Sensor Signal	III	LML
42 - 43	—	—	—	Not Occupied	—	—
44	0.5	GY/BK	5765	Fuel Filter Pressure Switch Signal	III	LML
45	—	—	—	Not Occupied	—	—
46	0.5	BR/WH	7073	Sensor Fuel Temperature 1 Low Reference	III	LML
47 - 48	—	—	—	Not Occupied	—	—

49	0.8	GY/WH	4908	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 8	II	LML
50	0.8	D-BU/WH	4902	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 2	II	LML
51	0.8	D-BU	4802	Direct Fuel Injector (DFI) High Voltage Control Cylinder 2	II	LML
52	0.8	L-GN	4805	Direct Fuel Injector (DFI) High Voltage Control Cylinder 5	II	LML
53	—	—	—	Not Occupied	—	—
54	0.5	L-GN/BK	5746	Exhaust Gas Recirculation Valve Motor Low Signal	III	LML
55	0.5	OR/BK	5764	Exhaust Gas Recirculation Valve Motor High Signal	III	LML
56	0.8	BR	582	Throttle Actuator Control Close	II	LML
57	0.8	YE	581	Throttle Actuator Control Open	II	LML
58	0.5	OR/BK	3656	EGR Cooler Bypass Motor Close Control	III	LML
59	0.5	L-GN	3655	EGR Cooler Bypass Motor Open Control	III	LML
60	0.5	GY/BK	6272	Crankshaft 60X Sensor Low Reference	III	LML
61	0.5	WH/BK	6271	Crankshaft 60X Sensor Signal	III	LML
62	0.5	D-GN	485	Throttle Position Sensor Signal (1)	III	LML
63	—	—	—	Not Occupied	—	—
64	0.5	GN/WH	6142	Power Take Off Engine Shutdown Signal	III	LML
65	0.5	BU/WH	6265	Camshaft CAM W Signal	III	LML

66	0.5	BR	6266	Camshaft CAM W Ground	III	LML
67	0.5	BR	6274	Exhaust Gas Recirculation Temperature Sensor Low Reference	III	LML
68	0.5	WH	6275	Exhaust Gas Recirculation Temperature Sensor 2 Low Reference	III	LML
69	0.8	D-GN/WH	4903	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 3	II	LML
70	0.8	L-GN/WH	4905	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 5	II	LML
71	0.8	D-GN	4803	Direct Fuel Injector (DFI) High Voltage Control Cylinder 3	II	LML
72	0.8	GY	4808	Direct Fuel Injector (DFI) High Voltage Control Cylinder 8	II	LML
73	3	BK/WH	451	Signal Ground	I	LML

K20 Engine Control Module X3 (LV1/LV3)



Connector Part Information

Harness Type: Engine

OEM Connector: 33157046

Service Connector: 19260918

Description: 73-Way F 0.64, 2.8 Series, Sealed (BK with GY Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J
II	13579770	J-35616-35 (VT)	J-38125-11A	7116-4152-02	20	A	5

K20 Engine Control Module X3 (LV1/LV3)

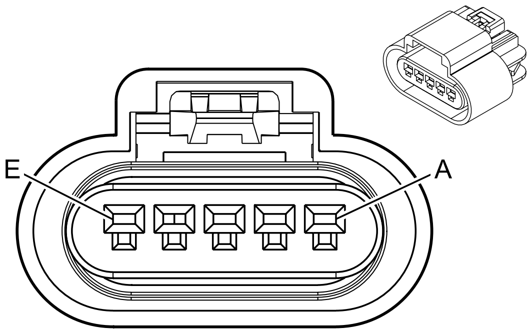
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BN	331	Oil Pressure Sensor Signal	I	—
2	0.5	WH/RD	2705	Oil Pressure Sensor 5 Volt Reference	I	—
3	0.5	BN/YE	2161	Fuel Rail Pressure Sensor 2 Signal	I	—
4 - 7	—	—	—	Not Occupied	—	—
8	0.5	D-BU	410	Engine Coolant Temperature Sensor Signal	I	—
9	—	—	—	Not Occupied	—	—
10	0.5	VT/D-BU	6270	Crankshaft 60X Sensor 5 Volt Reference	I	—
11 - 12	—	—	—	Not Occupied	—	—
13	0.5	D-BU/WH	2122	Ignition Control (2)	I	—

14	0.5	L-GN/D-BU	2123	Ignition Control (3)	I	—
15	0.5	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
16	0.75	YE	7301	High Pressure Fuel Pump Actuator High - Control	I	—
17	0.5	BK/PU	2755	Oil Pressure Sensor Low Reference	I	—
18 - 23	—	—	—	Not Occupied	—	—
24	0.5	BK/BN	2761	Coolant Temperature Sensor Low Reference	I	—
25	0.5	BK/PU	6272	Crankshaft 60X Sensor Low Reference	I	—
26	0.5	L-GN	6271	Crankshaft 60X Sensor Signal	I	—
27	0.5	YE/D-BU	2124	Ignition Control (4)	I	—
28	0.5	D-BU/GY	2125	Ignition Control (5)	I	—
29	0.5	BN/D-BU	2126	Ignition Control (6)	I	—
30	0.5	D-BU/VT	2121	Ignition Control (1)	I	—
31	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
32	0.75	VT/BK	7300	High Pressure Fuel Pump Actuator Low - Control	I	—
33	0.5	YE/VT	5275	Camshaft Position Intake Sensor (1)	I	—
34	0.5	GY/D-BU	5300	Camshaft Position Intake Sensor Control (1)	I	—
35 - 38	—	—	—	Not Occupied	—	—

35 - 38	—	—	—	Not Occupied	—	—
39	0.5	VT/BN	5284	Camshaft Phaser Intake Solenoid (1)	I	—
40 - 45	—	—	—	Not Occupied	—	—
46	0.75	GY/D-BU	4804	Direct Fuel Injector (DFI) High Voltage Control Cylinder 4	I	—
47	0.75	L-GN	4803	Direct Fuel Injector (DFI) High Voltage Control Cylinder 3	I	—
48	0.75	L-GN/VT	4806	Direct Fuel Injector (DFI) High Voltage Control Cylinder 6	I	—
49	—	—	—	Not Occupied	—	—
50	0.75	WH/L-GN	4805	Direct Fuel Injector (DFI) High Voltage Control Cylinder 5	I	—
51	0.75	D-BU	4802	Direct Fuel Injector (DFI) High Voltage Control Cylinder 2	I	—
52	0.75	BN	4801	Direct Fuel Injector (DFI) High Voltage Control Cylinder 1	I	—
53	0.5	BK/L-GN	5301	Camshaft Position Intake Sensor Low Reference (1)	I	—
54 - 58	—	—	—	Not Occupied	—	—
59	0.5	BK/BN	6753	Cam Phaser W Low Reference	I	—
60 - 62	—	—	—	Not Occupied	—	—
63	0.5	D-BU	5491	Cylinder Shutoff Solenoid Control (1)	I	—
64	0.5	L-GN	5492	Cylinder Shutoff Solenoid Control (2)	I	—
65	—	—	—	Not Occupied	—	—
66	0.75	D-BU/WH	4904	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 4	I	—
67	0.75	L-GN/BK	4903	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 3	I	—

68	0.75	VT	4906	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 6	I	—
69	—	—	—	Not Occupied	—	—
70	0.75	L-GN/WH	4905	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 5	I	—
71	0.75	BN/L-GN	4902	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 2	I	—
72	0.75	BN/WH	4901	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 1	I	—
73	2.5	BK/WH	451	Signal Ground	II	—

K22 Cooling Fan Control Module



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13519051

Service Connector: 13585858

Description: 5-Way F 150 GT Series, Sealed (BK)

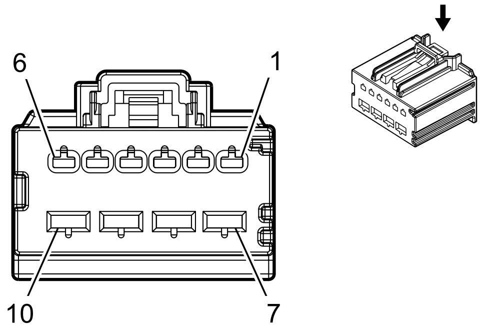
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

K22 Cooling Fan Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	BK	550	Ground	I	—
B	0.5	WH	2368	Cooling Fan Control Signal	I	—
C	0.5	BK/BN	6141	Cooling Fan Speed Low Reference	I	—
D	0.5	D-BU/VT	2364	Cooling Fan Speed Signal	I	—
E	0.5	GY/RD	2365	Cooling Fan Speed 5 Volt Reference	I	—

K29 Seat Heating Control Module X1



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 31372-1000

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F 1.5, 2.8 Series (BK)

Terminal Part Information

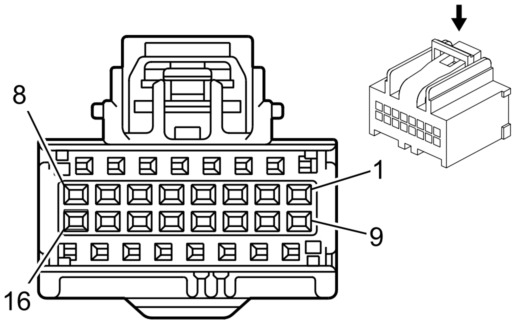
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

K29 Seat Heating Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/BR	2481	Passenger Heated Back Element Control	I	—
	0.75	RD/L-GN	6140	Battery Positive Voltage		—
2	0.75	BR/L-BU	2479	Passenger Heated Seat Element Control	I	—
3	0.75	GY/BK	2480	Passenger Heated Seat Element Low Reference	I	—
	0.75	WH/BR	2481	Passenger Heated Back Element Control		—
4	0.75	BR/BK	2078	Driver Heated Seat Element Low Reference	I	—
	0.75	BR/L-BU	2479	Passenger Heated Seat Element Control		—
5	0.75	BR	2432	Driver Heated Back Element Control	I	—

6	0.75	BR/VT	2077	Driver Heated Seat Element Control	I	—
7	0.75	RD/L-GN	6140	Battery Positive Voltage	II	—
8	0.75	BK	1250	Ground	II	—
9	—	—	—	Not Occupied	—	—
10	0.75	RD/L-GN	5140	Battery Positive Voltage	II	—

K29 Seat Heating Control Module X2



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 15136073

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F 0.64 Kaizen Series (BK)

Terminal Part Information

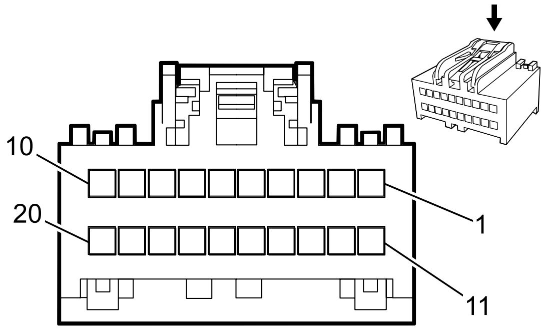
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K29 Seat Heating Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/YE	2080	Driver Heated Seat NTC Low Reference	I	—
2	0.5	BK/GY	2435	Passenger Heated Seat NTC Low Reference	I	—
3	0.5	L-BU	2425	Driver Heated Back NTC Signal	I	—
4	0.5	WH/L-BU	2436	Passenger Heated Back NTC Signal	I	—
5	0.5	WH/GY	2434	Passenger Heated Seat NTC Signal	I	—
6	0.5	YE/GY	2079	Driver Heated Seat NTC Signal	I	—
7	—	—	—	Not Occupied	—	—
8	0.35	L-GN/L-BU	6133	Local Interconnect Network Serial Data Bus 2	I	—

9	0.35	L-GN/VT	5906	Driver Seat Vent Motor Control (1)	I	—
10	0.35	VT/WH	5908	Passenger Seat Vent Motor Control (1)	I	—
11	—	—	—	Not Occupied	—	—
12	0.5	BK/L-GN	2482	Passenger Heated Back NTC Low Reference	I	—
13 - 16	—	—	—	Not Occupied	—	—

K33 HVAC Control Module X1



Connector Part Information

Harness Type: HVAC

OEM Connector: 13611322

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F 0.64 Series (GN with WH Terminal Position Assurance)

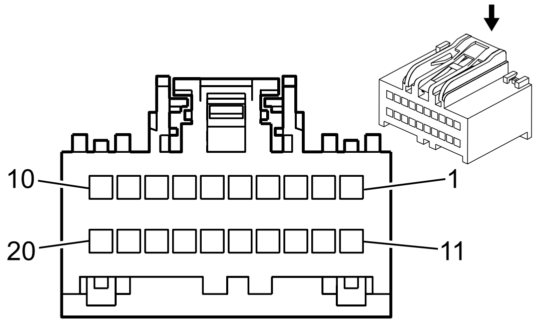
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

K33 HVAC Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1-3	-	-	-	Not Occupied	-	-
4	0.35	D-BU/WH	734	Inside Air Temperature Sensor Signal	I	-
5-12	-	-	-	Not Occupied	-	-
13	0.35	YE/VT	1783	Twilight Sentinel Delay Signal	I	-
14	0.35	YE/VT	1783	Twilight Sentinel Delay Signal	I	-
15-17	-	-	-	Not Occupied	-	-
18	0.35	BN	404	Upper Air Temperature Sensor Signal	I	-
19	0.35	BN/BK	405	Lower Air Temperature Sensor Signal	I	-
20	0.35	GY	590	Solar Sensor Driver Signal	I	-

K33 HVAC Control Module X2



Connector Part Information

Harness Type: HVAC

OEM Connector: 15491305

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F USCAR 64 Series (BN)

Terminal Part Information

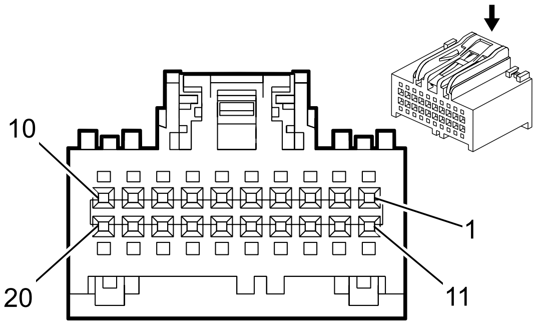
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

K33 HVAC Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/VT	3340	Battery Positive Voltage	I	-
2	0.35	L-GN	5060	Low Speed GMLAN Serial Data	I	-
3	-	-	-	Not Occupied	-	-
4	0.35	D-GN/YE	7531	Linear Interconnect Network Bus 9	I	-
5	0.5	YE/D-GN	3196	Auxiliary Heater Status Signal	I	-
6	-	-	-	Not Occupied	-	-
7	0.5	VT	3195	Auxiliary Heater Control	I	-
8	0.35	BK/WH	1851	Signal Ground	I	-
9	0.5	VT/GY	539	Run/Crank Ignition 1 Voltage	I	-
10	0.5	D-BU/YE	7574	Electric Variable Displacement Control	I	-
11	0.5	L-BU/BN	7573	Electric Variable Displacement Supply	I	-
12-14	-	-	-	Not Occupied	-	-
15	0.35	D-BU/GY	754	Blower Motor Speed Control	I	-
16	0.35	L-GN/BK	2211	Rear Blower Motor Speed Control	I	-
17	0.35	GY/RD	598	5 Volt Reference	I	-

18	0.35	BK/YE	1791	Air Temperature Door Control Low Reference	I	-
19	0.35	BN/VT	193	Rear Defog Relay Control	I	-
20	-	-	-	Not Occupied	-	-

K33 HVAC Control Module X3



Connector Part Information

Harness Type: HVAC

OEM Connector: 15489824

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F 0.64 Series (BK with WH Terminal Position Assurance)

Terminal Part Information

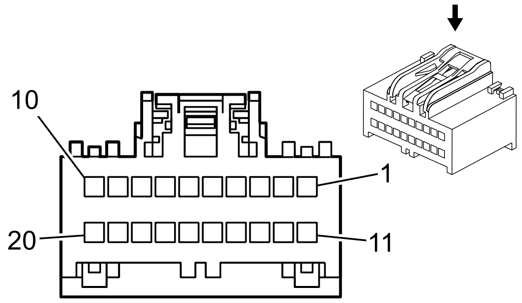
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

K33 HVAC Control Module X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU	516	Upper Left Air Temperature Sensor Signal	I	-
2	0.35	YE/BN	2273	Mode Door Control	I	-
3	0.35	WH	119	Mode Door Control	I	-
4	0.35	WH/D-GN	2275	Mode 1 Valve Position Sensor Signal	I	-
5-8	-	-	-	Not Occupied	-	-
9	0.35	BK/YE	407	Sensor Low Reference	I	-
10	-	-	-	Not Occupied	-	-
11	0.35	GY/D-GN	2210	Air Temperature Door Control	I	-
12	0.35	L-BU/BN	1199	Air Temperature Door Control	I	-
13	0.35	D-BU/YE	733	Air Temperature Door Position Signal	I	-
14-15	-	-	-	Not Occupied	-	-
16	0.35	YE/BK	2274	Recirculation Door Control	I	-
17	0.35	D-GN	1614	Recirculation Door Control	I	-
18	0.35	VT/L-GN	1838	Recirculation Door Position Signal	I	-
19	-	-	-	Not Occupied	-	-

20	0.35	GY	6137	EVAP Core Temperature Sensor Signal	I	-

K33 HVAC Control Module X4 (CJ2)



Connector Part Information

Harness Type: HVAC

OEM Connector: 15491304

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F USCAR 64 Series (GY)

Terminal Part Information

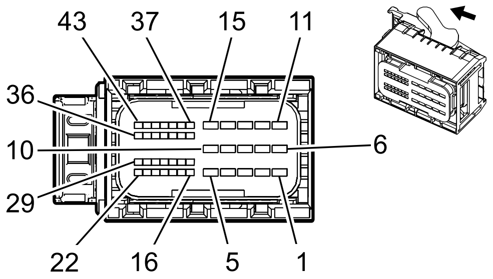
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

K33 HVAC Control Module X4 (CJ2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1-4	-	-	-	Not Occupied	-	-
5	0.35	GY/BK	2778	Passenger Air Temperature Motor Control	I	-
6	0.35	WH/BK	1236	Passenger Air Temperature Door Control	I	-
7	0.35	BN/L-BU	1646	Passenger Air Temperature Door Position Signal	I	-
8	-	-	-	Not Occupied	-	-
9	0.35	YE	517	Upper Right Air Temperature Sensor Signal	I	-
10	-	-	-	Not Occupied	-	-
11	0.35	L-GN	518	Lower Left Air Temperature Sensor Signal	I	-
12	0.35	RD	520	Lower Right Air Temperature Sensor Signal	I	-
13	0.35	D-GN/WH	5729	Rear Mode Motor Supply Voltage	I	-
14	0.35	BK/L-GN	5730	Rear Mode Motor Low Reference	I	-
15	0.35	GY	2599	Rear Mode Motor Signal	I	-
16	-	-	-	Not Occupied	-	-
17	0.35	WH/BN	2775	Rear Air Temperature Motor Control	I	-
18	0.35	GY	2614	Rear Air Temperature Door Control	I	-

19	0.35	GY/D-BU	2145	Passenger Air Temperature Switch Signal	I	-
20	-	-	-	Not Occupied	-	-

K34 Glow Plug Control Module X2 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 10001042

Service Connector: 13576417

Description: 43-Way F 1.2, 2.8 Series, Sealed

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13576372	J-35616-4A (PU)	J-38125-556	Not Available	Not Available	Not Available	Not Available
II	13579735	J-35616-16 (LT GN)	J-38125-21	Not Available	Not Available	Not Available	Not Available

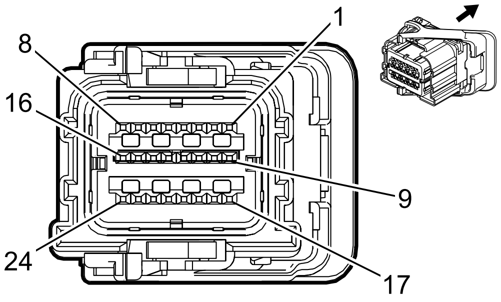
K34 Glow Plug Control Module X2 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2	GY/WH	3675	DEF Pump Heater Control	I	LML
2	2	WH/YE	1584	Glow Plug Control (4)	I	LML
3	2	YE	1583	Glow Plug Control (3)	I	LML
4	2	VT/WH	1582	Glow Plug Control (2)	I	LML
5	2	VT	1581	Glow Plug Control (1)	I	LML
6	2	VT/WH	3199	DEF Pressure Line Heater Control	I	LML
7	1.0-1.25	—	3673	Nox Sensor (1) Ground	I	LML

8	2	BK/WH	351	Signal Ground	I	LML
9	1.0-1.25	—	3671	Nox Sensor (2) Ground	I	LML
10	2	BK	550	Ground	I	LML
11	2	OR/WH	3677	DEF Reservoir Heater Control	I	LML
12	2	GN	1585	Glow Plug Control (5)	I	LML
13	2	GN/WH	1586	Glow Plug Control (6)	I	LML
14	2	PK	1587	Glow Plug Control (7)	I	LML
15	2	PK/WH	1588	Glow Plug Control (8)	I	LML
16	0.5	D-GN	2924	Intake Air Heater Current Feedback Signal	II	LML
17	0.5	VT	2922	Intake Air Heater Digital Response Signal	II	LML
18	0.5	—	2501	High Speed GMLAN Serial Data (-) (1)	II	LML
19	0.5	—	2501	High Speed GMLAN Serial Data (-) (1)	II	LML
20 - 22	—	—	—	Not Occupied	—	—
23	0.5	—	2925	Intake Air Heater Voltage Feedback Signal	II	LML
24	0.5	BK	2923	Intake Air Heater Temperature Signal	II	LML
25	0.5	—	2500	High Speed GMLAN Serial Data (+) (1)	II	LML
26	0.5	—	2500	High Speed GMLAN Serial Data (+) (1)	II	LML

27 - 29	—	—	—	Not Occupied	—	—
30	0.5	OR/BK	2921	Intake Air Heater Switch On/Off Signal	II	LML
31	0.5	YE	2920	Intake Air Heater Heart Beat Signal	II	LML
32	—	—	—	Not Occupied	—	—
33	0.5	PK	2139	Run/Crank Ignition 1 Voltage	II	LML
34 - 36	—	—	—	Not Occupied	—	—
37	0.5	VT	3674	Nox Sensor (1) Control	II	LML
38	0.5	GY	3672	Nox Sensor (2) Control	II	LML
39	—	—	—	Not Occupied	—	—
40	0.5	BU	5985	Accessory Wakeup Serial Data	II	LML
41 - 43	—	—	—	Not Occupied	—	—

k36 Inflatable Restraint Sensing and Diagnostic Module X1



Connector Part Information

Harness Type: Body

OEM Connector: 13887360

Service Connector: 19328755

Description: 24-Way F 0.64 Series, Sealed (YE)

Terminal Part Information

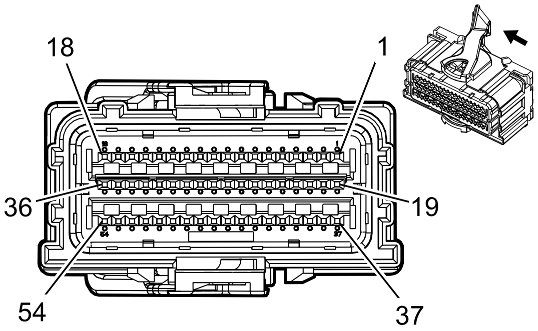
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19328872	J-35616-64B (LT BU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available

k36 Inflatable Restraint Sensing and Diagnostic Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	OG/L-GN	3023	Steering Wheel Module Stage 2 High Control	I	—
2	0.35	WH/OG	3022	Steering Wheel Module Stage 2 Low Control	I	—
3	0.35	BN/OG	3020	Steering Wheel Module Stage 1 Low Control	I	—
4	0.35	OG/VT	3021	Steering Wheel Module Stage 1 High Control	I	—
5	0.35	YE/OG	3025	Passenger IP Module Stage 1 High Control	I	—
6	0.35	OG/WH	3024	Passenger IP Module Stage 1 Low Control	I	—
7	0.35	OG/VT	3026	Passenger IP Module Stage 2 Low Control	I	—
8	0.35	GY/OG	3027	Passenger IP Module Stage 2 High Control	I	—

9	0.5	RD/L-GN	4440	Battery Positive Voltage	I	—
10	0.35	VT/WH	5234	Passenger Seat Belt Indicator Control	I	—
11	0.35	D-BU	2307	Passenger Air Bag On Indicator Control	I	—
12	0.35	L-GN	2308	Passenger Air Bag Off Indicator Control	I	—
13	0.35	VT/OG	371	Passenger IP Module Disable Switch Signal	I	—
14	0.35	D-BU/OG	7328	Passenger IP Module Disable Switch Low Reference	I	—
15	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
16	—	—	—	Not Occupied	—	—
17	0.5	WH/D-BU	5986	Serial Data Communication Enable	I	—
18	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	I	—
19	0.5	BK/WH	2751	Signal Ground	I	—
	0.75	BK/WH	2751			—
20	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	I	—
21 - 24	—	—	—	Not Occupied	—	—

k36 Inflatable Restraint Sensing and Diagnostic Module X2



Connector Part Information

Harness Type: Body

OEM Connector: 13944372

Service Connector: 19303770

Description: 54-Way F 0.64 Series, Sealed (YE)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19328872	J-35616-64B (LT BU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available

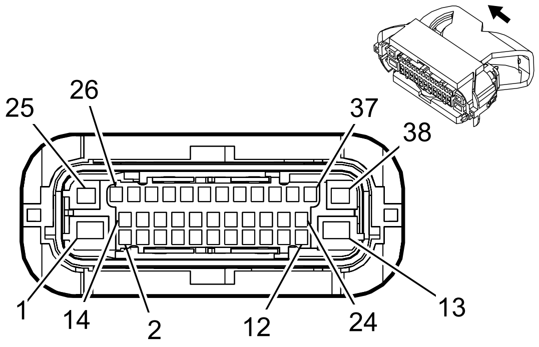
k36 Inflatable Restraint Sensing and Diagnostic Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 8	—	—	—	Not Occupied	—	—
9	0.35	OG/YE	3481	Driver Seat Belt Anchor Pretensioner High Control	I	—
10	0.35	YE/OG	3482	Driver Seat Belt Anchor Pretensioner Low Control	I	—
11	0.35	GY/OG	3480	Passenger Seat Belt Anchor Pretensioner Low Control	I	—
12	0.35	OG/BN	3479	Passenger Seat Belt Anchor Pretensioner High Control	I	—
13	0.35	OG/D-BU	3068	Driver Side Impact Module High Control	I	—
14	0.35	L-GN/OG	3069	Driver Side Impact Module Low Control	I	—
15	0.35	BN/OG	3067	Passenger Side Impact Module Low Control	I	—

16	0.35	OG/GY	3066	Passenger Side Impact Module High Control	I	—
17	0.35	OG/L-GN	5019	Left Front Head Curtain Module High Control	I	—
18	0.35	VT/OG	5020	Left Front Head Curtain Module Low Control	I	—
19	0.35	OG/L-GN	2132	Left Front Side Impact Sensing Module Signal	I	—
20	0.35	BK/OG	6628	Left Front Side Impact Sensing Module Low Reference	I	—
21	0.35	BK/OG	6629	Right Front Side Impact Sensing Module Low Reference	I	—
22	0.35	BN/OG	2134	Right Front Side Impact Sensing Module Signal	I	—
23	0.35	OG/YE	354	Left Front Discriminating Sensor Signal	I	—
	0.35	OG/GY	6618	Middle Front Discriminating Sensor Signal		—
24	0.35	BK/OG	5045	Left Front Discriminating Sensor Low Reference	I	—
	0.35	BK/OG	6619	Middle Front Discriminating Sensor Low Reference		—
25	0.35	BK/OG	5600	Right Front Discriminating Sensor Low Reference	I	—
26	0.35	OG/L-GN	1409	Right Front Discriminating Sensor Signal	I	—
27	0.35	OG/D-BU	6620	Left Middle Side Impact Sensing Module Signal	I	—
28	0.35	BK/OG	6621	Left Middle Side Impact Sensing Module Low Reference	I	—
29	0.35	BK/OG	6625	Right Middle Side Impact Sensing Module Low Reference	I	—
30	0.35	OG/VT	6624	Right Middle Side Impact Sensing Module Signal	I	—

31 - 36	—	—	—	Not Occupied	—	—
37	0.5	RD	3477	Driver Seat Belt Retractor Pretensioner High Control	I	—
38	0.5	GY	3478	Driver Seat Belt Retractor Pretensioner Low Control	I	—
39	0.5	WH	3476	Passenger Seat Belt Retractor Pretensioner Low Control	I	—
40	0.5	L-GN	3475	Passenger Seat Belt Retractor Pretensioner High Control	I	—
41	0.35	OG/BN	238	Driver Seat Belt Switch Signal	I	—
42	0.35	OG/L-GN	5055	Driver Seat Position Switch Signal	I	—
43	0.35	BK/OG	1363	Driver Seat Belt Switch Low Reference	I	—
44	0.35	BK/OG	1361	Passenger Seat Belt Switch Low Reference	I	—
45	0.35	OG/VT	1362	Passenger Seat Belt Switch Signal	I	—
46	0.35	OG/D-BU	5056	Passenger Seat Position Switch Signal	I	—
47 - 52	—	—	—	Not Occupied	—	—
53	0.35	OG/GY	5021	Right Front Head Curtain Module High Control	I	—
54	0.35	WH/OG	5022	Right Front Head Curtain Module Low Control	I	—

K38 Chassis Control Module



Connector Part Information

Harness Type: Chassis

OEM Connector: 33102981

Service Connector: 19329471

Description: 38-Way F 1.5 CTS, 2.8 MCP, 4.8 MCP Series, Sealed (BK)

Terminal Part Information

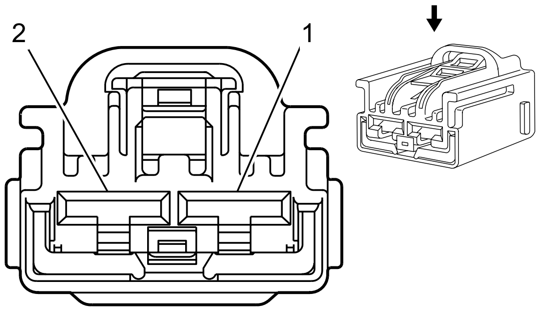
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19119381	J-35616-14 (GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
II	19119560	J-35616-40 (BU)	J-38125-556	Not Available	Not Available	Not Available	Not Available
III	19119772	J-35616-35 (VT)	J-38125-557	Not Available	Not Available	Not Available	Not Available

K38 Chassis Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/WH	2040	Battery Positive Voltage	II	—
2 - 12	—	—	—	Not Occupied	—	—
13	0.75	BK	1750	Ground	II	—
14	0.5	VT/YE	5985	Accessory Wakeup Serial Data	I	—
15	—	—	—	Not Occupied	—	—
16	0.5	D-BU/RD	7632	Integrated Trailer Brake Controller Switch 5 Volt Reference	I	—
17	—	—	—	Not Occupied	—	—
18	0.5	BN	7634	Integrated Trailer Brake Controller Redundant Manual Apply Signal	I	—

19	0.5	BK/BN	7631	Integrated Trailer Brake Controller Switch Low Reference	I	—
20	0.5	YE	7635	Integrated Trailer Brake Controller Manual Apply Signal	I	—
21	0.5	L-GN/BK	7633	Integrated Trailer Brake Controller User Gain Signal	I	—
22	0.5	YE/BK	2224	Trailer Brake Enable Signal	I	—
23	0.5	WH/BK	2223	Trailer Brake Control Signal	I	—
24	—	—	—	Not Occupied	—	—
25	0.75	PU/L-GN	439	Run/Crank Ignition 1 Voltage	III	—
26	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
27	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
28	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
29	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
30	0.5	L-GN/VT	4114	Local Interconnect Network Serial Data Bus 14	I	—
31 - 38	—	—	—	Not Occupied	—	—

K40 Seat Memory Control Module X1



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7283-6458-40

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 6.3 Series (L-GY)

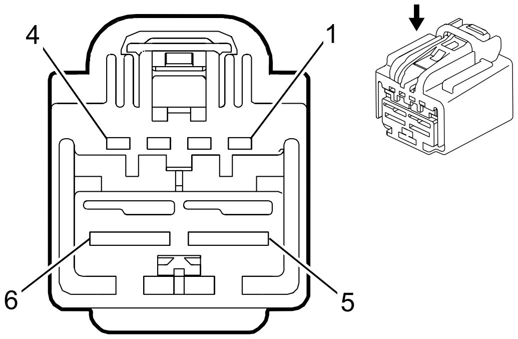
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required

K40 Seat Memory Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/BR	1140	Battery Positive Voltage	I	—
2	2.5	RD/YE	5040	Battery Positive Voltage	I	—

K40 Seat Memory Control Module X2



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7283-9749-30

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F YESC Kaizen Series (BK)

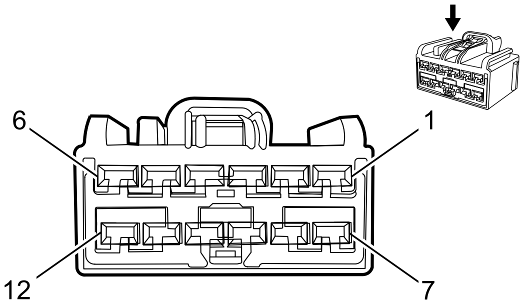
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required

K40 Seat Memory Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	L-GN/WH	7530	Local Interconnect Network Serial Data Bus 8	I	—
4	—	—	—	Not Occupied	—	—
5	2.5	BK	1150	Ground	II	—
6	—	—	—	Not Occupied	—	—

K40 Seat Memory Control Module X3



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7283-6467-40

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 2.8 Kaizen Series (L-GY)

Terminal Part Information

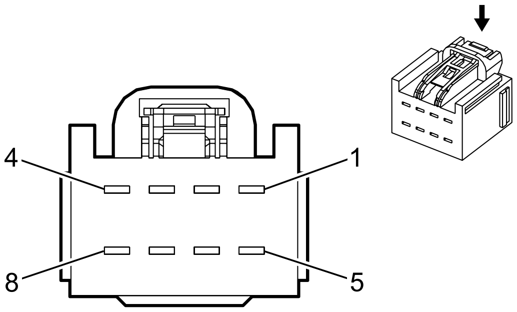
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

K40 Seat Memory Control Module X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN/YE	276	Driver Power Seat Recline Motor Forward Control	I	—
2	1.5	L-BU/YE	277	Driver Power Seat Recline Motor Rearward Control	I	—
3	1.5	L-GN/BR	286	Driver Power Seat Front Vertical Motor Up Control	I	—
4	1.5	L-BU/VT	287	Driver Power Seat Front Vertical Motor Down Control	I	—
5	1.5	YE	282	Driver Power Seat Rear Vertical Motor Up Control	I	—
6	1.5	GY/L-BU	283	Driver Power Seat Rear Vertical Motor Down Control	I	—
7	1.5	YE/BR	768	Driver Power Seat Lumbar Motor Up Control	I	—
8	1.5	YE/L-BU	767	Driver Power Seat Lumbar Motor Down Control	I	—

9	1.5	L-BU	611	Driver Power Seat Lumbar Motor Forward Control	I	—
10	1.5	VT	610	Driver Power Seat Lumbar Motor Rearward Control	I	—
11	1.5	YE/L-BU	285	Driver Power Seat Horizontal Motor Forward Control	I	—
12	1.5	GY/L-GN	284	Driver Power Seat Horizontal Motor Rearward Control	I	—

K40 Seat Memory Control Module X4



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7283-3243-40

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 2.8 Series (L-GY)

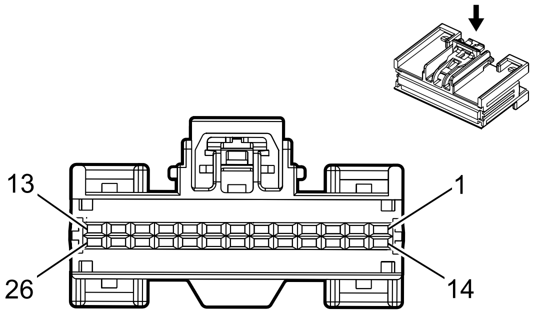
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

K40 Seat Memory Control Module X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN/VT	5130	Adjustable Pedal Actuator Forward Control	I	—
2	1.5	YE	5129	Adjustable Pedal Actuator Rearward Control	I	—
3 - 8	—	—	—	Not Occupied	—	—

K40 Seat Memory Control Module X5



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7287-2043-30

Service Connector: Service by Harness - See Part Catalog

Description: 26-Way F 0.64 Series (BK)

Terminal Part Information

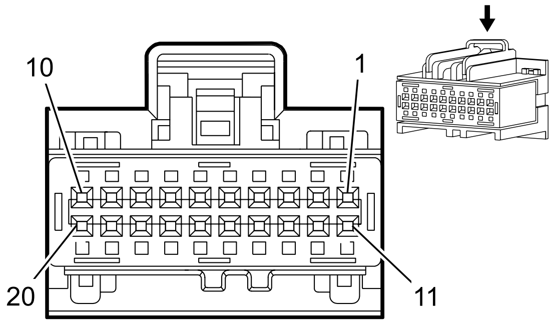
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K40 Seat Memory Control Module X5

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/RD	3298	Memory Sensor High Reference (2)	I	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.5	BR	3038	Right Rear Haptic Seat Motor Control	I	—
5	0.5	YE/BR	3037	Left Rear Haptic Seat Motor Control	I	—
6	0.5	BK/GY	6206	Memory Sensor Low Reference	I	—
7	0.5	YE/BR	1522	Power Seat Horizontal Forward Switch Signal	I	—
8	0.5	GY/L-GN	1523	Power Seat Horizontal Rearward Switch Signal	I	—
9	0.5	L-GN/BR	1518	Power Seat Front Vertical Up Switch Signal	I	—

10	0.5	L-BU/VT	1520	Power Seat Front Vertical Down Switch Signal	I	—
11	0.5	L-GN	569	Memory Seat Horizontal Motor Position Sensor Signal	I	—
12	0.5	BR/WH	557	Memory Seat Front Vertical Motor Position Sensor Signal	I	—
13	0.5	WH/RD	6207	Memory Sensor High Reference	I	—
14	0.5	YE	1065	Driver Seat Lumbar Forward Switch Signal	I	—
15	0.5	L-BU/VT	1064	Driver Seat Lumbar Rearward Switch Signal	I	—
16	0.5	WH	1066	Driver Seat Lumbar Up Switch Signal	I	—
17	0.5	YE/BK	1067	Driver Seat Lumbar Down Switch Signal	I	—
18	—	—	—	Not Occupied	—	—
19	0.5	YE	1519	Power Seat Rear Vertical Up Switch Signal	I	—
20	0.5	YE/L-BU	1521	Power Seat Rear Vertical Down Switch Signal	I	—
21	0.5	GY/BK	1269	Power Seat Recline Forward Switch Signal	I	—
22	0.5	L-GN/GY	1270	Power Seat Recline Rearward Switch Signal	I	—
23 - 24	—	—	—	Not Occupied	—	—
25	0.5	YE/L-BU	568	Memory Seat Rear Vertical Motor Position Sensor Signal	I	—
26	0.5	WH/BK	570	Driver Memory Seat Recline Motor Position Sensor Signal	I	—

K40 Seat Memory Control Module X6



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 31410-1201

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F 64 Series, Sealed (GY with WH Terminal Position Assurance)

Terminal Part Information

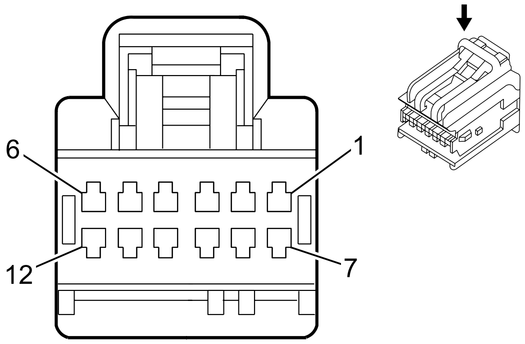
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K40 Seat Memory Control Module X6

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 3	—	—	—	Not Occupied	—	—
4	0.35	L-BU	5952	Adjustable Pedal Position Sensor Brake Signal	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	L-GN/GY	5286	Adjustable Pedal Switch Forward Signal	I	—
7	0.35	WH/GY	5285	Adjustable Pedal Switch Rearward Signal	I	—
8 - 10	—	—	—	Not Occupied	—	—
11	0.35	BK/L-BU	5978	Memory Switch Low Reference	I	—
12	0.35	WH	615	Memory Seat Switch Signal (1)	I	—
13 - 14	—	—	—	Not Occupied	—	—
15	0.35	L-GN/L-BU	614	Memory Seat Switch Set Signal	I	—

16 - 20	—	—	—	Not Occupied	—	—

K41 Front and Rear Parking Assist Control Module X1



Connector Part Information

Harness Type: Body

OEM Connector: 13551678

Service Connector: 89047364

Description: 12-Way F 0.64 Series (BK)

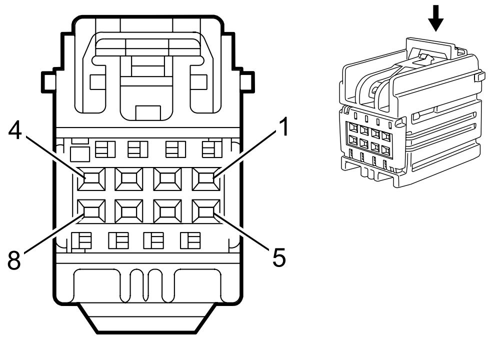
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575845	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P
II	13579945	J-35616-64B (LT BU)	J-38125-215A	Not Available	Not Available	Not Available	Not Available

K41 Front and Rear Parking Assist Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/L-GN	3140	Battery Positive Voltage	II	—
2	—	—	—	Not Occupied	—	—
3	0.35	L-GN/BN	5852	Rear Park Assist LED Disable Signal	I	—
4	0.35	L-GN	5060	Low Speed GMLAN Serial Data	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	0.75	BK/WH	2751	Signal Ground	II	—
8	0.35	GY/L-GN	2555	Rear Park Assist Disable Signal	I	—
9 - 12	—	—	—	Not Occupied	—	—

K41 Front and Rear Parking Assist Control Module X2



Connector Part Information

Harness Type: Body

OEM Connector: 13551679

Service Connector: 19115653

Description: 8-Way F YESC Kaizen Series (L-GY)

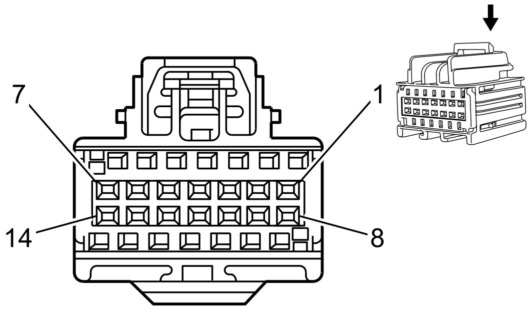
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K41 Front and Rear Parking Assist Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	2375	Left Rear Corner Object Sensor Signal	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	YE/D-BU	2376	Left Rear Middle Object Sensor Signal	I	—
4	0.5	BN/WH	2374	Object Sensor Control	I	—
5	0.5	YE/VT	2378	Right Rear Corner Object Sensor Signal	I	—
6	—	—	—	Not Occupied	—	—
7	0.5	YE/WH	2377	Right Rear Middle Object Sensor Signal	I	—
8	0.5	BK/GY	2379	Object Sensor Low Reference	I	—

K41 Front and Rear Parking Assist Control Module X3



Connector Part Information

Harness Type: Body

OEM Connector: 15491263

Service Connector: 15127038

Description: 14-Way F Kaizen 64 Series (BU)

Terminal Part Information

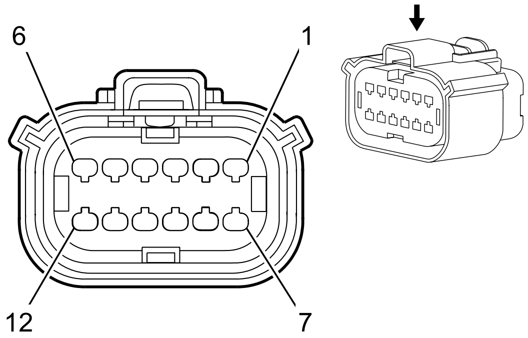
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575845	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P
II	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

K41 Front and Rear Parking Assist Control Module X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/VT	5213	Front Parking Left/Right/Mid Sensor	I	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.5	VT/WH	5215	Front Parking Left Corner Sensor	II	—
5	0.5	YE/GY	5216	Front Parking Left Mid Sensor	II	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.5	BK/D-BU	5214	Front Parking Sensor Low Reference	II	—
9 - 10	—	—	—	Not Occupied	—	—
11	0.5	WH/GY	5217	Front Parking Right Corner Sensor	II	—
12	0.5	VT/GY	5218	Front Parking Right Mid Sensor	II	—

13 - 14	—	—	—	Not Occupied	—	—

K43 Power Steering Control Module



Connector Part Information

Harness Type: Chassis

OEM Connector: 13595088

Service Connector: 19150019

Description: 12-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

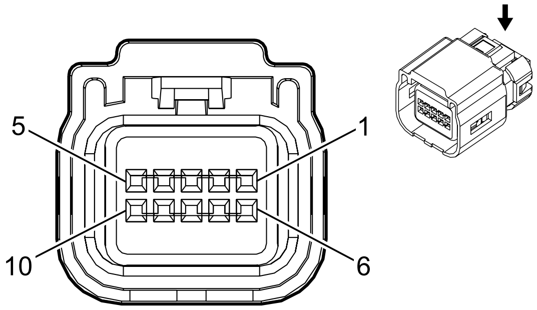
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575808	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
II	19300635	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

K43 Power Steering Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
2	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
3	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	II	—
4	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	II	—
5	0.5	RD/WH	2740	Battery Positive Voltage	II	—
6	—	—	—	Not Occupied	—	—
7	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
8	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—

9	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	II	—
10	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	II	—
11	0.75	BK	2150	Ground	I	—
12	0.5	WH/D-BU	5986	Serial Data Communication Enable	II	—

K43 Power Steering Control Module X1 (1500)



Connector Part Information

Harness Type: Power Steering Jumper

OEM Connector: 28249219

Service Connector: Service by Harness - See Part Catalog

Description: 10–Way (F)

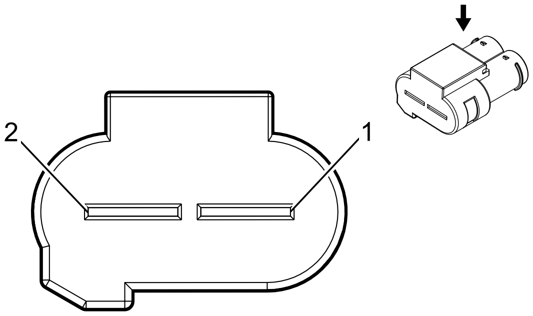
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K43 Power Steering Control Module X1 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GN/BU	2501	High Speed GMLAN Serial Data (-) (1)	I	-
2	0.5	BK	2500	High Speed GMLAN Serial Data (+) (1)	I	-
3	0.5	YE/BU	6106	High Speed GMLAN Serial Data (-) (2)	I	-
4	0.5	BK/OG	6105	High Speed GMLAN Serial Data (+) (2)	I	-
5	0.5	GY	5986	Serial Data Communication Enable	I	-
6	0.5	BK/GN	2501	High Speed GMLAN Serial Data (-) (1)	I	-
7	0.5	WH/BN	2500	High Speed GMLAN Serial Data (+) (1)	I	-
8	0.5	VT	6106	High Speed GMLAN Serial Data (-) (2)	I	-
9	0.5	BN/YE	6105	High Speed GMLAN Serial Data (+) (2)	I	-
10		–		Not Used	I	–

K43 Power Steering Control Module X2 (1500)



Connector Part Information

Harness Type: Power Steering Jumper

OEM Connector: 28208864

Service Connector: Service by Harness - See Part Catalog

Description: 2–Way (F)

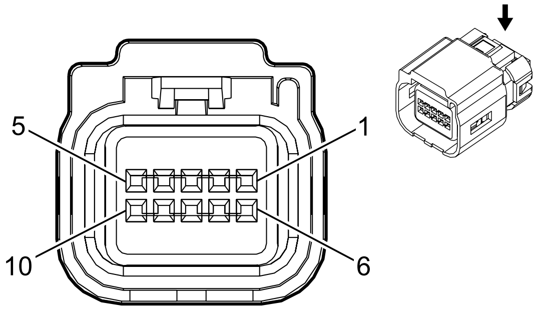
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K43 Power Steering Control Module X2 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	20	RD	842	Battery Positive Voltage	I	-
2	20	BK	350	Ground	I	-

K43 Power Steering Control Module X3 (1500)



Connector Part Information

Harness Type: Power Steering Jumper

OEM Connector: 28249220

Service Connector: Service by Harness - See Part

Description: 10 F 0.64 Kaizen Series, Sealed (GY)

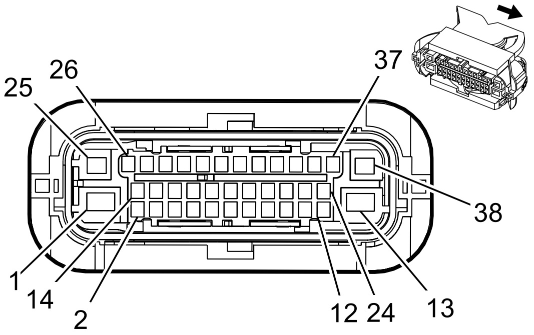
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

K43 Power Steering Control Module X3 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD	–	5-Volt Reference	I	-
2	0.5	TN	–	SDA	I	-
3	0.5	BU/GN	–	TRQ2 PWM Q2	I	-
4	0.5	BK	–	Low Reference	I	-
5	0.5	GN	–	TOR IN 1	I	-
6	0.5	VT	–	SCL	I	-
7	0.5	WH	–	TRQ1 PWM Q1	I	-
8	-	-	-	Not Occupied	-	-
9	0.5	GN/BU	–	TOR IN 2	I	-
10	-	-	-	Not Occupied	-	-

K44 Power Take-Off Control Module X1



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 15498534

Service Connector: 19329924

Description: 38-Way F 1.5 CTS, 2.8 MCP, 4.8 MCP Series, Sealed (BK)

Terminal Part Information

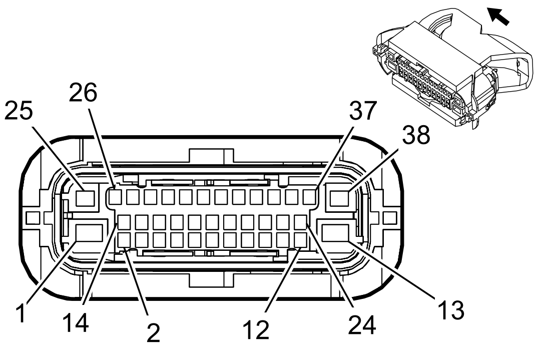
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13582180	J-35616-14 (GN)	J-38125-560	1241374-1	6	E	2
II	19119560	J-35616-40 (BU)	J-38125-556	1241408-1	4	C	A
III	19119560	J-35616-40 (BU)	J-38125-556	Not Available	Not Available	Not Available	Not Available
IV	19119772	J-35616-35 (VT)	J-38125-557	Not Available	Not Available	Not Available	Not Available

K44 Power Take-Off Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/D-BU	4540	Battery Positive Voltage	III	—
2 - 12	—	—	—	Not Occupied	—	—
13	1.5	BK/WH	451	Signal Ground	II	—
14	0.5	WH/D-BU	5986	Serial Data Communication Enable	I	—
15	0.5	L-GN/WH	488	Power Take Off Control Switch	I	—
16 - 17	—	—	—	Not Occupied	—	—
18	0.5	BN/L-GN	4311	Power Take Off Enable In Cab Switch Normally Closed Signal	I	—
19 - 24	—	—	—	Not Occupied	—	—

19 - 24	—	—	—	Not Occupied	—	—
25	0.75	BN/WH	6085	Power Take Off Remote Engine Start Switch Signal	IV	—
26	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
27	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
28	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
29	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
30 - 38	—	—	—	Not Occupied	—	—

K44 Power Take-Off Control Module X2



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13655518

Service Connector: 19303771

Description: 38-Way F 1.5 CTS, 2.8 MCP, 4.8 MCP Series, Sealed (BK with BN Inner Connector)

Terminal Part Information

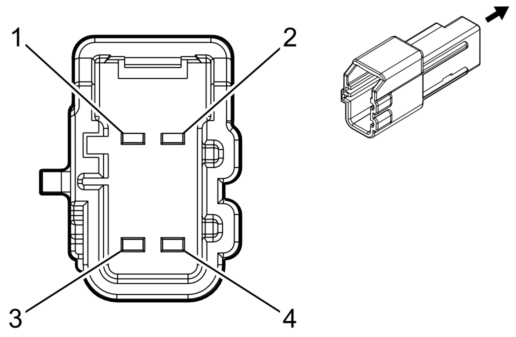
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19119381	J-35616-14 (GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available

K44 Power Take-Off Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 7	—	—	—	Not Occupied	—	—
8	0.75	YE	2522	Power Take Off Status Signal	I	—
9 - 10	—	—	—	Not Occupied	—	—
11	0.5	VT/D-BU	2562	Power Take Off Relay Coil Control	I	—
12 - 27	—	—	—	Not Occupied	—	—
28	0.5	WH/L-GN	6142	Power Take Off Engine Shutdown Signal	I	—
29 - 34	—	—	—	Not Occupied	—	—
35	0.5	D-BU/GY	6089	Power Take Off Remote Switch Set Signal (1)	I	—
36	0.75	D-BU/BN	4408	Power Take Off Enable Signal	I	—
37	0.75	BN	6381	Power Take Off Relay Engage Signal	I	—

38	—	—	—	Not Occupied	—	—

K53D Seat Blower Assembly - Driver Back (KB6)



Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 6098-7779

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 1.2 Series (BK)

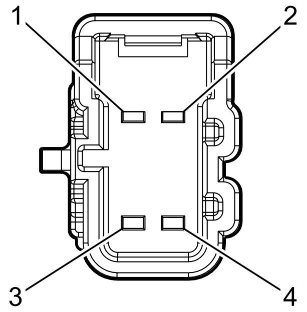
Terminal Part Information

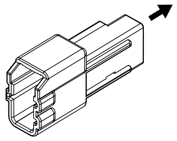
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required

K53D Seat Blower Assembly - Driver Back (KB6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/L-GN	5140	Battery Positive Voltage	I	—
2	0.35	L-GN/VT	5906	Driver Seat Vent Motor Control (1)	I	—
3	0.75	BK	1150	Ground	I	—
4	—	—	—	Not Occupied	—	—

K53P Seat Blower Assembly - Passenger Back (KB6)





Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 6098-7781

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 1.2 Series (GY)

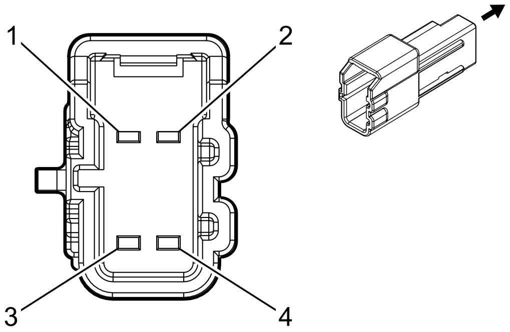
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required

K53P Seat Blower Assembly - Passenger Back (KB6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/L-GN	6140	Battery Positive Voltage	I	—
2	0.35	VT/WH	5908	Passenger Seat Vent Motor Control (1)	I	—
3	0.75	BK	1250	Ground	I	—
4	—	—	—	Not Occupied	—	—

K55D Seat Blower Assembly - Driver Cushion (KB6)



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 6098-7781

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 1.2 Series (GY)

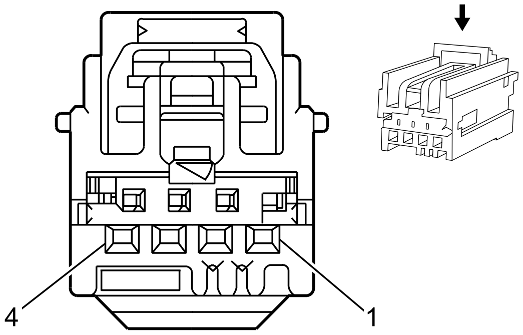
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required

K55D Seat Blower Assembly - Driver Cushion (KB6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/L-GN	5140	Battery Positive Voltage	I	—
2	0.35	L-GN/VT	5906	Driver Seat Vent Motor Control (1)	I	—
3	0.75	BK	1150	Ground	I	—
4	—	—	—	Not Occupied	—	—

K55P Seat Blower Assembly - Passenger Cushion (KB6)



Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 7283-9016-30

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F (BK)

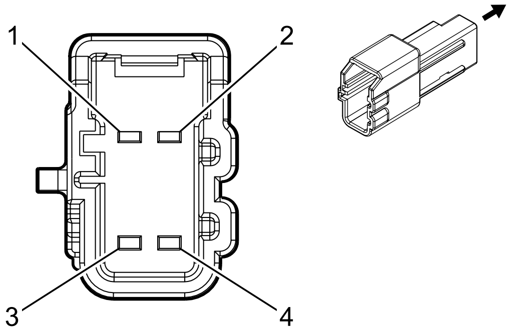
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	No Tool Required	Not Required	Not Required	Not Required	Not Required

K55P Seat Blower Assembly - Passenger Cushion (KB6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/L-GN	6140	Battery Positive Voltage	I	—
2	0.75	WH/BR	2481	Passenger Heated Back Element Control	I	—
3	0.35	VT/WH	5908	Passenger Seat Vent Motor Control (1)	I	—
4	0.75	BK	1250	Ground	I	—

K55P Seat Blower Assembly - Passenger Cushion (-KB6)



Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 6098-7779

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 1.2 Series (BK)

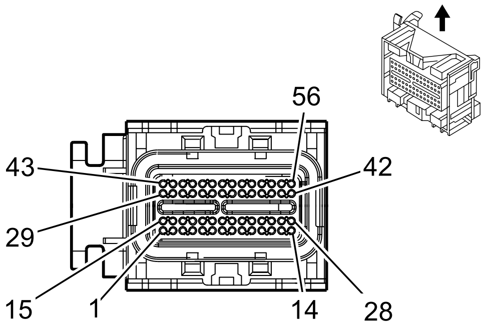
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required

K55P Seat Blower Assembly - Passenger Cushion (-KB6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	RD/L-GN	6140	Battery Positive Voltage	I	—
2	0.35	VT/WH	5908	Passenger Seat Vent Motor Control (1)	I	—
3	0.75	BK	1250	Ground	I	—
4	—	—	—	Not Occupied	—	—

K59 Starter/Generator Control Module X1



Connector Part Information

Harness Type: Engine

OEM Connector: 13510837

Service Connector: 88988373

Description: 56-Way F 0.64 Series, Sealed (BU with BU Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	19	J	J

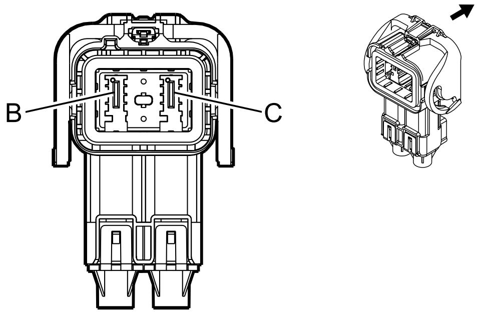
K59 Starter/Generator Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/L-GN	439	Run/Crank Ignition 1 Voltage	I	—
2	0.5	VT/YE	5985	Accessory Wakeup Serial Data	I	—
3	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
4	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
5	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—
6	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—
7	0.75	D-BU	7645	Traction Power Inverter Module Resolver 1 Excitation Signal Positive	I	—
8	0.75	WH/L-GN	7648	Traction Power Inverter Module Traction Power Inverter Module Resolver 1 Excitation Signal Negative	I	—

				Excitation Signal Negative		
9	0.75	BN	7652	Traction Power Inverter Module Resolver 1 S3 Signal	I	—
10	0.75	YE	7649	Traction Power Inverter Module Resolver 1 S1 Signal	I	—
11	0.75	VT/L-GN	7647	Transmission Traction Power Inverter Module Resolver 1 S2 Signal	I	—
12	0.75	GY	7646	Transmission Traction Power Inverter Module Resolver 1 S4 Signal	I	—
13 - 16	—	—	—	Not Occupied	—	—
17	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
18	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
19	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—
20	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—
21 - 27	—	—	—	Not Occupied	—	—
28	0.5	WH	5359	Brake Apply Sensor Control	I	—
29 - 38	—	—	—	Not Occupied	—	—
39	0.5	BK/BN	5360	Brake Apply Sensor Low Reference	I	—
40	0.5	BK/GY	3872	Powertrain Electronics Cooling Loop (PECL) Temperature Sensor Low Reference	I	—
41	—	—	—	Not Occupied	—	—
42	0.5	WH/BN	3768	MGU Coolant Pump Relay Control	I	—
43 - 48	—	—	—	Not Occupied	—	—
49	0.5	VT/D-BU	3790	Electric Coolant Motor Feedback Signal	I	—

50 - 52	—	—	—	Not Occupied	—	—
53	0.5	D-BU/YE	5361	Brake Apply Sensor Signal	I	—
54	0.5	GY/VT	3873	Powertrain Electronics Cooling Loop (PECL) Temperature Sensor Signal	I	—
55	—	—	—	Not Occupied	—	—
56	0.5	WH/GY	4578	Surge Accumulator Solenoid Low Side Control	I	—

K59 Starter/Generator Control Module X2



Connector Part Information

Harness Type: High Voltage Body

OEM Connector: 13976820

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F Power Pack 1000 Series, Sealed (OG)

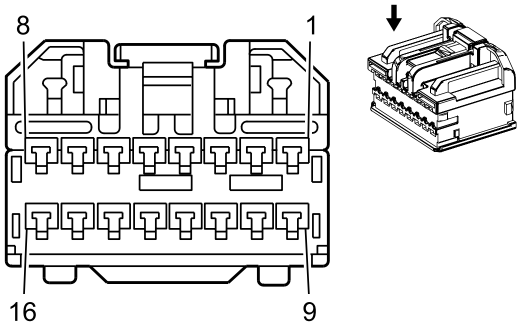
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	Not Required	Not Required	Not Required	Not Required	Not Required

K59 Starter/Generator Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	12	OG	5084	High Voltage Battery (+)	I	—
B - C	—	—	—	Not Occupied	—	—

K69 Transfer Case Control Module X1



Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 13547237

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F 1.5 Series (GY)

Terminal Part Information

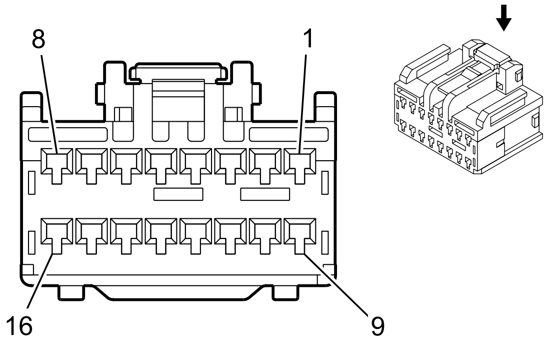
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

K69 Transfer Case Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BK	7478	Rotary Position Sensor Low Reference	I	—
2	0.5	WH/L-GN	7479	Rotary Position Sensor Signal	I	—
3	0.35	YE	7474	Incremental Encoder Direction Signal	I	—
4	0.5	GY/BK	1570	Front Axle Actuator Control	I	—
5	0.35	D-BU/GY	7473	Incremental Encoder Impulse Signal	I	—
6	0.35	GY/RD	6029	Four Wheel Drive Mode Switch 5 Volt Reference	I	—
7	0.35	D-BU/YE	1693	Four Wheel Drive Switch Signal	I	—
8	—	—	—	Not Occupied	—	—

9	0.5	WH/RD	7477	Rotary Position Sensor 5 Volt Reference	I	—
10	0.35	WH/L-GN	7475	Incremental Encoder Sensor 8 Volt Reference	I	—
11	0.35	VT	7476	Incremental Encoder Sensor Low Reference	I	—
12	0.5	YE/WH	1695	Four Wheel Drive Wheel Lock Indicator Control	I	—
13	1	YE/BN	1569	Transfer Case Lock Solenoid Control	I	—
14 - 16	—	—	—	Not Occupied	—	—

K69 Transfer Case Control Module X2



Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 15489823

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F 1.5 Series (BK)

Terminal Part Information

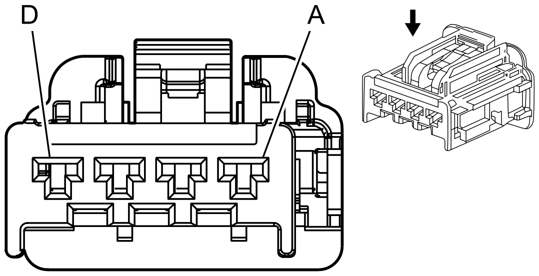
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

K69 Transfer Case Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.35	VT/WH	1565	4 LO Indicator Control	I	—
4	0.35	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	VT/YE	5985	Accessory Wakeup Serial Data	I	—
7	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
8	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
9 - 10	—	—	—	Not Occupied	—	—
11	0.35	GY/L-GN	1561	AWD Indicator Control	I	—

12	0.35	BN	1560	Neutral Indicator Control	I	—
13	0.35	L-GN/BK	1563	2 HI Indicator Control	I	—
14	0.35	BN/BK	1566	4 HI Indicator Control	I	—
15	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
16	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—

K69 Transfer Case Control Module X3



Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 15466671

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 280 GT Series (L-GY)

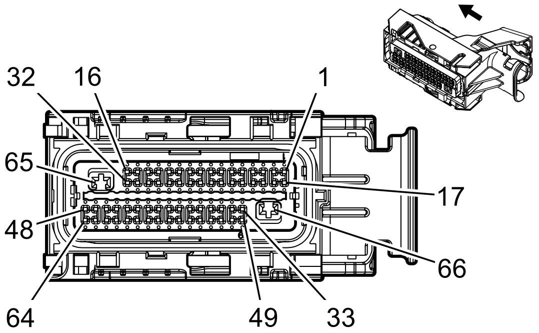
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

K69 Transfer Case Control Module X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	4	YE/VT	1553	Transfer Case Motor Counter Clockwise Control	I	—
B	4	YE/GY	1552	Transfer Case Motor Clockwise Control	I	—
C	3	RD/GY	1342	Battery Positive Voltage	I	—
D	3	BK	550	Ground	I	—

K71 Transmission Control Module (M5U/M5X)



Connector Part Information

Harness Type: Engine

OEM Connector: 13965710

Service Connector: 19330410

Description: 66-Way F 0.64, 2.8 Series, Sealed (BK with BK Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13575812	J-35616-64B (LT BU)	J-38125-213	33467-0003	Delphi 23	J	J
II	13579770	J-35616-35 (VT)	J-38125-11A	Not Available	Not Available	Not Available	Not Available

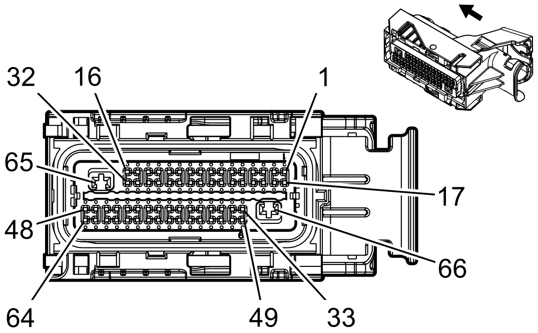
K71 Transmission Control Module (M5U/M5X)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/D-BU	4507	Transmission Clutch H Control	I	—
2	0.5	D-BU	6401	Clutch B Control	I	—
3	0.5	GY/L-GN	6403	Clutch D Control	I	—
4 - 6	—	—	—	Not Occupied	—	—
7	0.5	YE/L-GN	4170	Transmission Position Sensor B 9 Volt Reference	I	—
8	0.5	YE/D-BU	4171	Transmission Position Sensor A 9 Volt Reference	I	—
9 - 12	—	—	—	Not Occupied	—	—
13	0.5	L-GN/VT	4510	Transmission Intermediate Speed Signal	I	—

14	0.5	GY/D-BU	6358	Output Speed Signal	I	—
15	0.5	L-GN/YE	6353	Input Speed Signal	I	—
16	—	—	—	Not Occupied	—	—
17	0.5	WH	4508	Transmission Clutch G Control	I	—
18	0.5	BN	6400	Clutch A Control	I	—
19	0.5	GY	6402	Clutch C Control	I	—
20	0.5	YE/BN	6404	Clutch E Control	I	—
21	0.5	L-GN/WH	6380	TCC On/Off Solenoid A Control	I	—
22	0.5	YE/BN	6210	TCC On/Off Solenoid B Control	I	—
23 - 24	—	—	—	Not Occupied	—	—
25	0.5	BK/GY	3927	IMS Mode Switch Low Reference	I	—
26 - 27	—	—	—	Not Occupied	—	—
28	0.5	BK/BN	586	Transmission Oil Temperature Sensor Low Reference	I	—
29 - 32	—	—	—	Not Occupied	—	—
33	0.75	L-GN/GY	6387	Transmission High Side Driver 1 Signal Driver	I	—
34	—	—	—	Not Occupied	—	—
35	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage	I	—
36	—	—	—	Not Occupied	—	—
37	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—

38	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
39 - 46	—	—	—	Not Occupied	—	—
47	0.5	GY/YE	4169	PRNDL S Signal	I	—
48	—	—	—	Not Occupied	—	—
49	0.75	GY/BN	6388	Transmission High Side Driver 2 Signal	I	—
50	—	—	—	Not Occupied	—	—
51	0.5	VT/YE	5985	Accessory Wakeup Serial Data	I	—
52	—	—	—	Not Occupied	—	—
53	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
54	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
55 - 58	—	—	—	Not Occupied	—	—
59	0.5	GY/WH	4168	PRNDL P Signal	I	—
60	0.5	WH/BK	5983	PRNDL C Signal	I	—
61	0.5	GY/BN	5982	PRNDL B Signal	I	—
62	0.5	VT/WH	5981	PRNDL A Signal	I	—
63	0.5	BN/WH	585	Transmission Oil Temperature Sensor Signal	I	—
64	—	—	—	Not Occupied	—	—
65	1.5	BK/WH	451	Signal Ground	II	—
66	1.5	RD/L-GN	1840	Battery Positive Voltage	II	—

K71 Transmission Control Module (MW7)



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13965710

Service Connector: 19330410

Description: 66-Way F 0.64, 2.8 Series, Sealed (BK with BK Terminal Position Assurance)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13579769	J-35616-35 (VT)	J-38125-11A	Not Available	Not Available	Not Available	Not Available

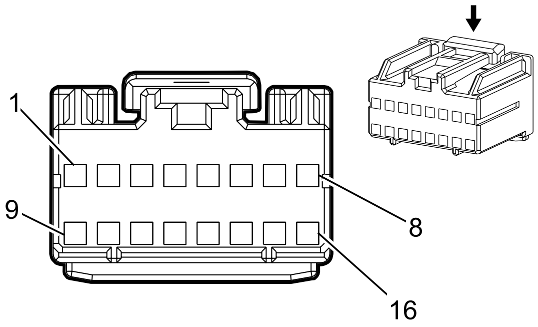
K71 Transmission Control Module (MW7)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.75	D-BU	6401	Clutch B Control	I	—
3 - 6	—	—	—	Not Occupied	—	—
7	0.5	YE/L-GN	4170	Transmission Position Sensor B 9 Volt Reference	I	—
	0.75	YE/L-GN	4170			—
8	0.75	YE/D-BU	4171	Transmission Position Sensor A 9 Volt Reference	I	—
9	0.75	WH/BN	1226	Transmission Fluid Pressure Switch Signal Bit 3	I	—
10	0.75	L-GN/BK	2529	Transmission Fluid Pressure Switch Signal Bit 4	I	—
11 - 13	—	—	—	Not Occupied	—	—
14	0.5	GY/D-BU	6358	Output Speed Signal	I	—

14	0.5	GY/D-BU	6358	Output Speed Signal	I	—
	0.75	GY/D-BU	6358			—
15	0.75	L-GN/YE	6353	Input Speed Signal	I	—
16	—	—	—	Not Occupied	—	—
17	0.75	WH	4508	Transmission Clutch G Control	I	—
18	0.75	BN	6400	Clutch A Control	I	—
19	0.75	GY	6402	Clutch C Control	I	—
20	—	—	—	Not Occupied	—	—
21	0.75	WH/BN	2527	Shift Solenoid Control (5)	I	—
22	—	—	—	Not Occupied	—	—
23	0.75	WH/L-GN	1222	1 Shift Solenoid Valve Control	I	—
24	0.75	YE/BK	1223	2 Shift Solenoid Valve Control	I	—
25	—	—	—	Not Occupied	—	—
26	0.5	WH/BK	5983	PRNDL C Signal	I	—
27	0.5	VT/WH	5981	PRNDL A Signal	I	—
28	0.75	BK/BN	586	Transmission Oil Temperature Sensor Low Reference	I	—
29 - 32	—	—	—	Not Occupied	—	—
33	0.75	L-GN/GY	6387	Transmission High Side Driver 1 Signal Driver	I	—
34	—	—	—	Not Occupied	—	—
35	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage	I	—

36	0.75	L-GN/VT	1225	Transmission Fluid Pressure Switch Signal Bit 2	I	—
37	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
38	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
39 - 48	—	—	—	Not Occupied	—	—
49	0.75	GY/BN	6388	Transmission High Side Driver 2 Signal	I	—
50	—	—	—	Not Occupied	—	—
51	0.5	VT/YE	5985	Accessory Wakeup Serial Data	I	—
52	0.75	PU/GY	1224	Transmission Fluid Pressure Switch Signal Bit 1	I	—
53	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
54	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
55	0.5	GY/WH	4168	PRNDL P Signal	I	—
56 - 57	—	—	—	Not Occupied	—	—
58	0.5	GY/BN	5982	PRNDL B Signal	I	—
59 - 62	—	—	—	Not Occupied	—	—
63	0.75	BN/WH	585	Transmission Oil Temperature Sensor Signal	I	—
64	—	—	—	Not Occupied	—	—
65	0.75	BK/WH	451	Signal Ground	I	—
66	0.75	RD/L-GN	1840	Battery Positive Voltage	I	—

K73 Telematics Communication Interface Control Module X1



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15431362

Service Connector: 15306351

Description: 16-Way F Micro-Pack 100A Series (NA)

Terminal Part Information

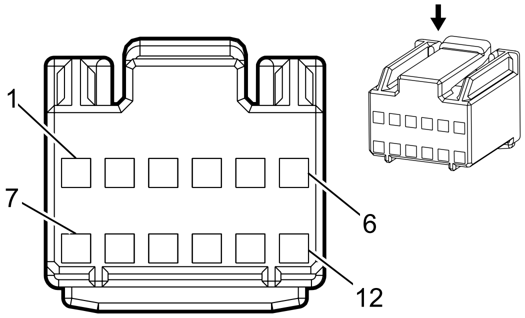
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575548	J-35616-16 (LT GN)	J-38125-559	15445905	8	J	J

K73 Telematics Communication Interface Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
2	0.35	BN/WH	2517	Keypad Red LED Control	I	—
3	0.35	YE/VT	2516	Keypad Green LED Control	I	—
4 - 5	—	—	—	Not Occupied	—	—
6	0.35	L-GN/BK	2515	Keypad Control	I	—
7	0.35	BK	2550	Ground	I	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
11	0.35	L-GN/WH	2514	Keypad Signal	I	—

12	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
13 - 14	—	—	—	Not Occupied	—	—
15	0.35	RD/D-BU	3240	Battery Positive Voltage	I	—
16	—	—	—	Not Occupied	—	—

K73 Telematics Communication Interface Control Module X2



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15431365

Service Connector: 88952886

Description: 12-Way F Micro-Pack 100A Series (NA)

Terminal Part Information

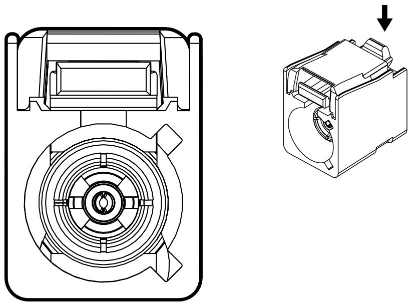
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575548	J-35616-16 (LT GN)	J-38125-559	15445905	8	J	J

K73 Telematics Communication Interface Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	658	Cellular Telephone Voice Signal	I	—
2	0.35	BK/YE	659	Cellular Telephone Voice Low Reference	I	—
3	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
4	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
5	0.5	BARE	1792	Low Reference	I	—
6	0.35	GY/YE	5149	Voice Recognition Audio Signal	I	—
7	0.35	WH/D-BU	5986	Serial Data Communication Enable	I	—
8	0.35	BARE	1782	Low Reference	I	—

9	0.35	D-BU	655	Cellular Telephone Microphone Signal	I	—
10	0.35	BK/BN	654	Cellular Telephone Microphone Low Reference	I	—
11	—	—	—	Not Occupied	—	—
12	0.35	BK/GY	5152	Voice Recognition Audio Low Reference	I	—

K73 Telematics Communication Interface Control Module X5 (UE1)



Connector Part Information

Harness Type: Instrument Panel COAX

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1–Way COAX (VT)

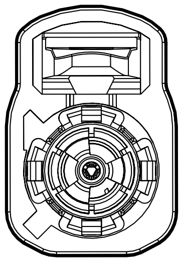
Terminal Part Information

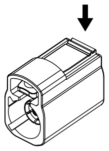
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K73 Telematics Communication Interface Control Module X5 (UE1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	COAX	—	Coaxial Antenna Cell Phone Signal	I	—

K73 Telematics Communication Interface Control Module X7 (UE1 without CV3)





Connector Part Information

Harness Type: Instrument Panel COAX

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1–Way COAX (BN)

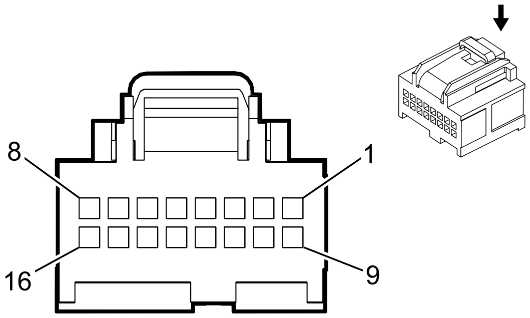
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K73 Telematics Communication Interface Control Module X7 (UE1 without CV3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	COAX	—	Coaxial Antenna Cell/GPS combined Signal	I	—

K74 Human Machine Interface Control Module X1



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13819409

Service Connector: 13582576

Description: 16-Way F 0.64 OCS Series (BK)

Terminal Part Information

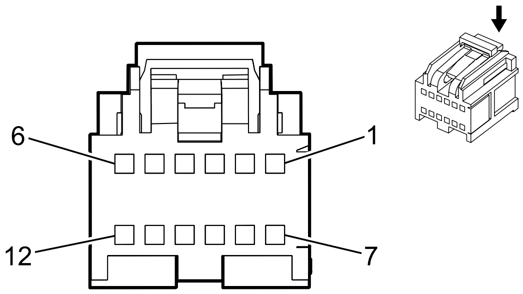
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19300660	J-35616-64B (LT BU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
II	19300660	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

K74 Human Machine Interface Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/YE	5149	Voice Recognition Audio Signal	II	—
	0.35	D-BU	655	Cellular Telephone Microphone Signal		—
2	0.35	BK/GY	5152	Voice Recognition Audio Low Reference	II	—
	0.35	BK/BN	654	Cellular Telephone Microphone Low Reference		—
3 - 4	—	—	—	Not Occupied	—	—
5	0.35	WH/D-BU	5986	Serial Data Communication Enable	II	—
6	—	—	—	Not Occupied	—	—
7	0.75	RD/VT	340	Battery Positive Voltage	I	—
8	0.75	BK	2550	Ground	I	—

9	0.5	L-GN/WH	7527	Local Interconnect Network Serial Data Bus 5	II	—
10	—	—	—	Not Occupied	—	—
11	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
12	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
13	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
14	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
15 - 16	—	—	—	Not Occupied	—	—

K74 Human Machine Interface Control Module X2



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 33104389

Service Connector: 13594072

Description: 12-Way F 0.64 OCS Series (GY)

Terminal Part Information

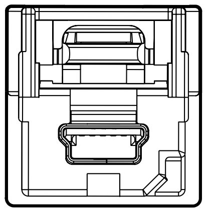
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13587581	J-35616-64B (LT BU)	J-38125-215A	Not Available	Not Available	Not Available	Not Available

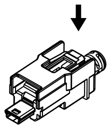
K74 Human Machine Interface Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/VT	3999	MOST Control	I	—
2	0.5	WH/L-GN	3997	MOST Serial Data (-)	I	—
3	0.5	GY/VT	3998	MOST Serial Data (+)	I	—
4	—	—	—	Not Occupied	—	—
5	0.35	GY/YE	6972	Camera Signal 2 +	I	—
6	0.35	WH/D-BU	6973	Camera Signal 2	I	—
7	—	—	—	Not Occupied	—	—
8	0.5	GY/VT	3998	MOST Serial Data (+)	I	—
9	0.5	WH/L-GN	3997	MOST Serial Data (-)	I	—

10 - 12	—	—	—	Not Occupied	—	—

K74 Human Machine Interface Control Module X3 (IO4, IO5 or IO6)





Connector Part Information

Harness Type: Instrument Panel USB

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: USB Cable Connector (BK)

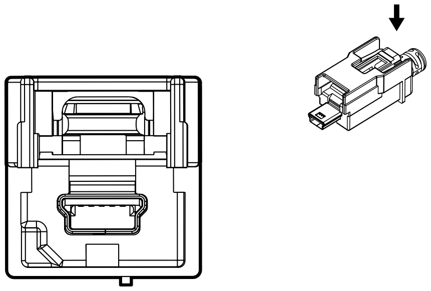
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K74 Human Machine Interface Control Module X3 (IO4, IO5 or IO6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	USB	—	USB Serial Data	I	—

K74 Human Machine Interface Control Module X4 (IO4, IO5 or IO6)



Connector Part Information

Harness Type: Instrument Panel USB

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: USB Cable Connector (GN)

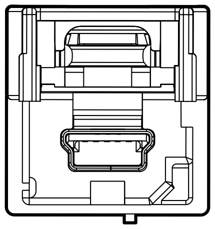
Terminal Part Information

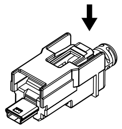
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K74 Human Machine Interface Control Module X4 (IO4, IO5 or IO6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	USB	—	USB Serial Data	I	—

K74 Human Machine Interface Control Module X5 (IO4, IO5 or IO6)





Connector Part Information

Harness Type: Instrument Panel LVDS

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: LVDS Cable Connector (BU)

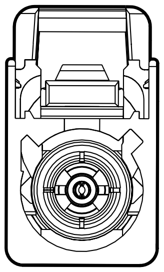
Terminal Part Information

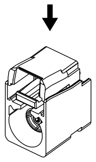
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K74 Human Machine Interface Control Module X5 (IO4, IO5 or IO6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	LVDS	—	Infotainment Display Signal	I	—

K74 Human Machine Interface Control Module X7 (IO6)





Connector Part Information

Harness Type: Instrument Panel COAX

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1–Way COAX (BU)

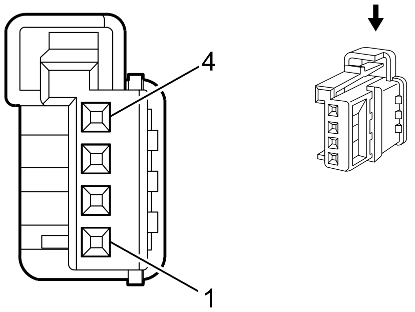
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K74 Human Machine Interface Control Module X7 (IO6)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	COAX	—	Coaxial Antenna GPS Signal	I	—

K77 Remote Control Door Lock Receiver



Connector Part Information

Harness Type: Body

OEM Connector: 10768790

Service Connector: 13584096

Description: 4-Way F 0.64 Micro Quadlok Series (BK)

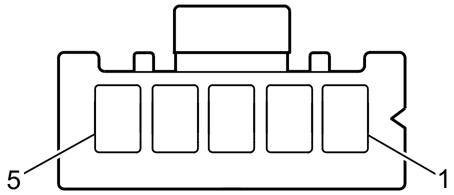
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K77 Remote Control Door Lock Receiver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY	3273	Remote Function Actuator Low Reference	I	—
2	0.35	YE/L-GN	3274	Remote Function Actuator Transmit Signal	I	—
3	0.35	D-BU/WH	3275	Remote Function Actuator Receive Signal	I	—
4	0.35	GY/WH	3272	Remote Function Actuator Control	I	—

K81L Headlamp High Beam Control Module - Left (Z88)



Connector Part Information

Harness Type:

OEM Connector: XARP-05V

Service Connector: Service by Harness – See Part Catalog

Description: 5 F XA Series (BK)

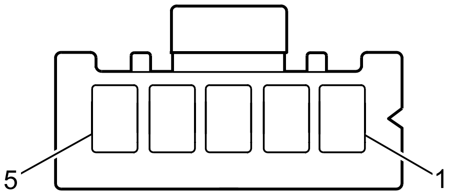
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K81L Headlamp High Beam Control Module - Left (Z88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY	-	High Beam Solenoid +	I	Z88
2	0.5	TN	-	High Beam Solenoid -	I	Z88
3	-	-	-	Not Occupied	-	-
4	0.5	BK	150	Ground	I	Z88
5	0.5	BU	711	Left Headlamp High Beam Supply Voltage	I	Z88

K81R Headlamp High Beam Control Module - Right (Z88)



Connector Part Information

Harness Type:

OEM Connector: XARP-05V

Service Connector: Service by Harness – See Part Catalog

Description: 5 F XA Series (BK)

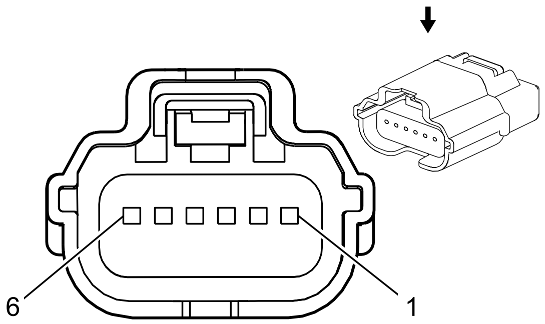
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K81R Headlamp High Beam Control Module - Right (Z88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY	-	High Beam Solenoid +	I	Z88
2	0.5	TN	-	High Beam Solenoid -	I	Z88
3	-	-	-	Not Occupied	-	-
4	0.5	BK	250	Ground	I	Z88
5	0.5	BU	311	Right Headlamp High Beam Supply Voltage	I	Z88

K85 Passenger Presence Module



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 31404-6132

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 Series, Sealed (BK)

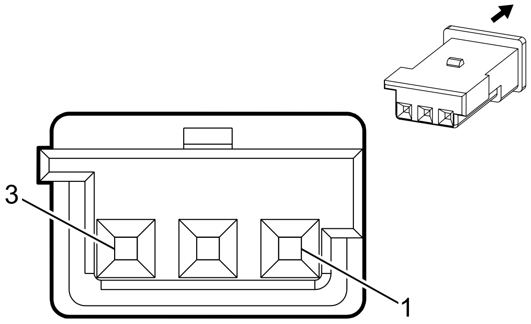
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K85 Passenger Presence Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/L-GN	4440	Battery Positive Voltage	I	—
2	0.35	L-GN	5060	Low Speed GMLAN Serial Data	I	—
	0.5	L-GN	5060			—
3	—	—	—	Not Occupied	—	—
4	0.35	BK/WH	2751	Signal Ground	I	—
5	0.35	L-BU/RD	5612	Passenger Seat Belt Tension Sensor 5 Volt Reference	I	—
6	0.35	VT/OR	5611	Passenger Seat Belt Tension Sensor Signal	I	—

K89 Immobilizer Control Module



Connector Part Information

Harness Type: Steering Column

OEM Connector: 4-1718346-1

Service Connector: 13576530

Description: 3-Way F Micro Quadlock Series (PU)

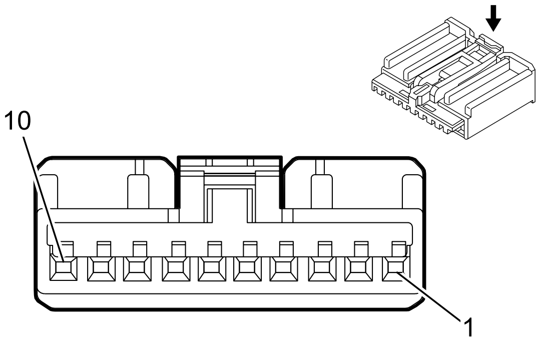
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K89 Immobilizer Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GN/GY	3277	Vehicle Anti-Theft System Immobilizer Return	I	-
2	0.5	GN/VT	7533	Linear Interconnect Network Bus 11	I	-
3	0.5	GY/BK	3276	Vehicle Anti-Theft System Immobilizer Supply Voltage	I	-

K109 Frontview Camera Module (UFL)



Connector Part Information

Harness Type: Headliner

OEM Connector: 13574592

Service Connector: 13576634

Description: 10-Way F 0.64 Kaizen Series (BK)

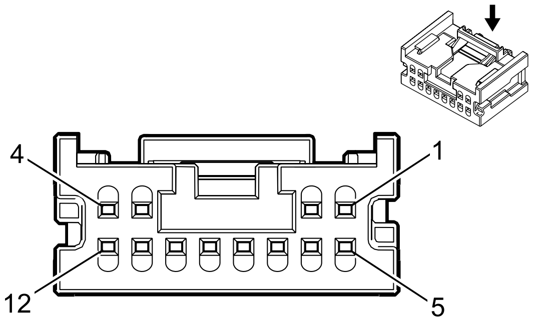
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

K109 Frontview Camera Module (UFL)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	1050	Ground	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	RD/L-GN	3140	Battery Positive Voltage	I	—
4	0.35	WH	3152	Lane Departure Warning Indicator Control	I	—
5 - 6	—	—	—	Not Occupied	—	—
7	0.35	L-GN	5060	Low Speed GMLAN Serial Data	I	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.35	GY/WH	3153	Lane Departure Warning Disable Switch Signal	I	—

K109 Frontview Camera Module (UHX)



Connector Part Information

Harness Type: Headliner

OEM Connector: 33133857

Service Connector: 19330348

Description: 12-Way F Mini 50 Series (BK)

Terminal Part Information

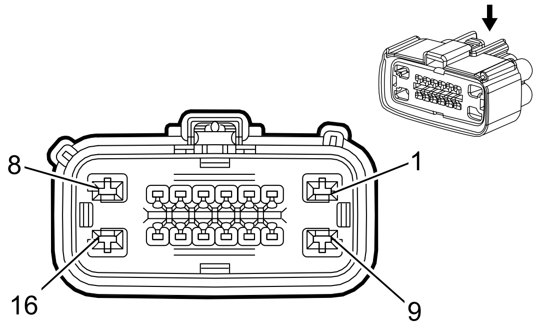
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19333221	J-35616-64B (LT BU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available

K109 Frontview Camera Module (UHX)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1050	Ground	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	RD/L-GN	3140	Battery Positive Voltage	I	—
4	0.35	WH	3152	Lane Departure Warning Indicator Control	I	—
5	0.35	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
6	0.35	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
7 - 8	—	—	—	Not Occupied	—	—
9	0.35	WH/D-BU	5986	Serial Data Communication Enable	I	—
10	0.35	GY/WH	3153	Lane Departure Warning Disable Switch Signal	I	—

11	0.35	L-GN	5060	Low Speed GMLAN Serial Data	I	—
12	—	—	—	Not Occupied	—	—

K111 Fuel Pump Driver Control Module



Connector Part Information

Harness Type: Chassis

OEM Connector: 15500308

Service Connector: 19329927

Description: 16-Way F 1.5, 2.8 Series, Sealed

Terminal Part Information

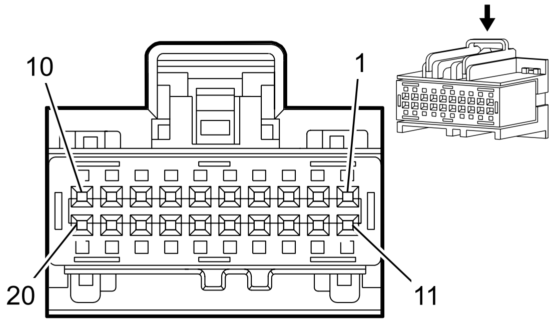
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13505803	J-35616-35 (VT)	J-38125-12A	1326030-8	13	4	D
II	13575808	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

K111 Fuel Pump Driver Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	RD/VT	1940	Battery Positive Voltage	I	—
2	0.5	GY	5660	Fuel Pump Controller Data Out Signal	II	—
3	—	—	—	Not Occupied	—	—
4	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	II	—
5	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	II	—
6	0.5	VT/L-GN	439	Run/Crank Ignition 1 Voltage	II	—
7	0.5	VT/YE	5985	Accessory Wakeup Serial Data	II	—
8	2.5	GY	120	Fuel Pump Control	I	—

9	2.5	BK	2150	Ground	I	—
10 - 14	—	—	—	Not Occupied	—	—
15	0.5	D-BU	7444	Fuel System Control Module Shield Ground	II	—
16	2.5	BK/L-GN	1580	Fuel Pump Low Reference	I	—

K114 Hybrid/EV Powertrain Control Module X1



Connector Part Information

Harness Type: Body

OEM Connector: 13950640

Service Connector: 15126709

Description: 20-Way F USCAR 64 Series (BN)

Terminal Part Information

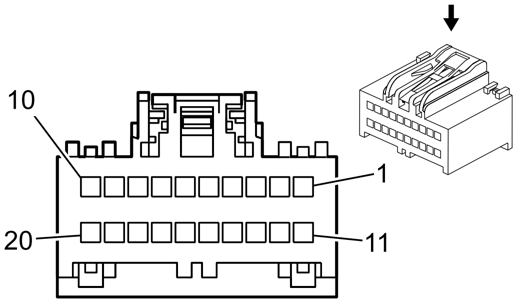
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

K114 Hybrid/EV Powertrain Control Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—
2	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—
3 - 6	—	—	—	Not Occupied	—	—
7	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.5	YE	5530	Hood Open Switch Signal	I	—
11	—	—	—	Not Occupied	—	—
12	0.5	WH	7494	High Speed GMLAN Serial Data (-)(3)	I	—
13	0.5	D-BU/BK	7493	High Speed GMLAN Serial Data (+)(3)	I	—
14 - 19	—	—	—	Not Occupied	—	—

14 - 19	—	—	—	Not Occupied	—	—
20	0.35	D-BU/VT	5599	Fan Speed Signal (2)	I	—

K114 Hybrid/EV Powertrain Control Module X2



Connector Part Information

Harness Type: Body

OEM Connector: 13859758

Service Connector: 15126710

Description: 20-Way F USCAR 64 Series (GY)

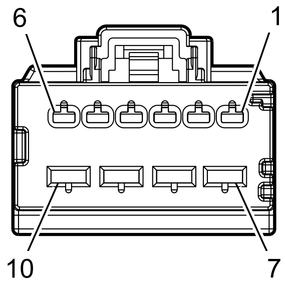
Terminal Part Information

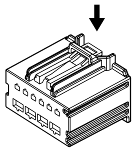
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

K114 Hybrid/EV Powertrain Control Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 3	—	—	—	Not Occupied	—	—
4	0.35	YE/L-GN	5598	Fan Speed Signal (1)	I	—
5 - 8	—	—	—	Not Occupied	—	—
9	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage	I	—
10 - 20	—	—	—	Not Occupied	—	—

K114 Hybrid/EV Powertrain Control Module X3





Connector Part Information

Harness Type: Body

OEM Connector: 33175128

Service Connector: 13596102

Description: 10-Way F 1.5, 2.8 Series (BK)

Terminal Part Information

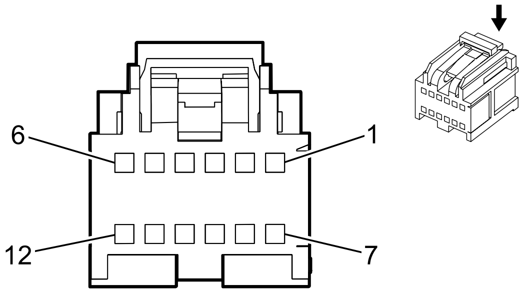
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13582322	J-35616-35 (VT)	J-38125-11A	7116-4110-02	12	E	C
II	19300635	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

K114 Hybrid/EV Powertrain Control Module X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
3	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
4	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
5	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
6	—	—	—	Not Occupied	—	—
7	0.5	BK	1250	Ground	I	—
8	—	—	—	Not Occupied	—	—
9	0.35	VT/YE	5985	Accessory Wakeup Serial Data	I	—

10	0.5	RD/BN	2940	Battery Positive Voltage	I	—

K114 Hybrid/EV Powertrain Control Module X4



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 13782626

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 0.64 OCS Series (GY)

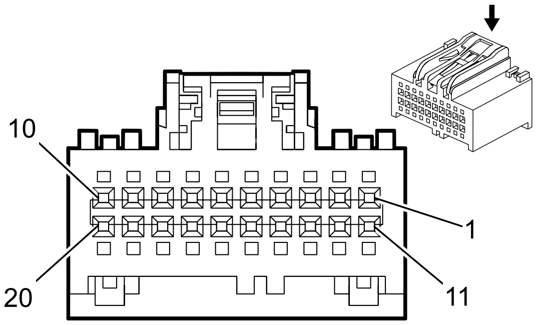
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K114 Hybrid/EV Powertrain Control Module X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH	3959	High Voltage Battery 1 (+) Relay Control	I	—
2	0.35	WH	3961	High Voltage Battery (-) Relay Control	I	—
3	0.35	WH	5138	Precharge Relay	I	—
4 - 6	—	—	—	Not Occupied	—	—
7	0.35	WH	150	Ground	I	—
8 - 12	—	—	—	Not Occupied	—	—

K114 Hybrid/EV Powertrain Control Module X5



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 15489824

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F 0.64 Series (BK with WH Terminal Position Assurance)

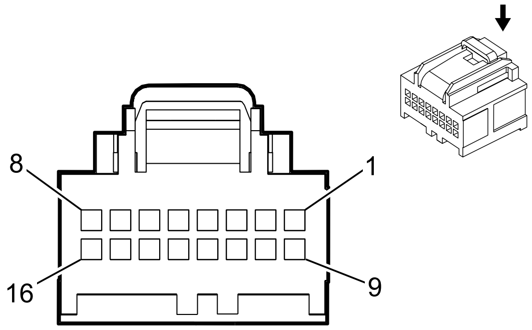
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K114 Hybrid/EV Powertrain Control Module X5

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	5087	High Voltage Interlock Loop Signal (1)	I	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.35	WH	2962	High Voltage Battery Current Sensor Course Signal	I	—
5 - 10	—	—	—	Not Occupied	—	—
11	0.5	WH	5088	High Voltage Interlock Loop Low Reference (1)	I	—
12	—	—	—	Not Occupied	—	—
13	0.35	WH	2965	High Voltage Battery Current Sensor Voltage Reference	I	—
14	0.35	WH	2963	High Voltage Battery Current Sensor Low Reference	I	—
15 - 20	—	—	—	Not Occupied	—	—

K114 Hybrid/EV Powertrain Control Module X6



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 13819411

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F 0.64 OCS Series (BN)

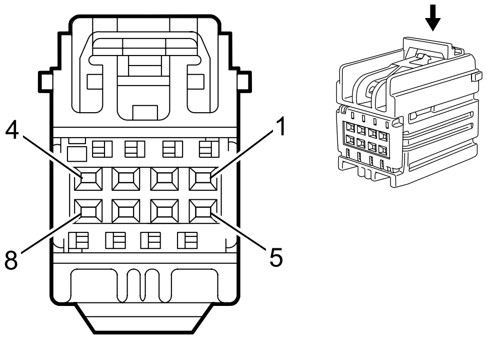
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K114 Hybrid/EV Powertrain Control Module X6

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	WH	3546	High Voltage Battery Positive Monitor Signal	I	—
3 - 6	—	—	—	Not Occupied	—	—
7	0.5	WH	3548	High Voltage Battery Negative Monitor Signal	I	—
8 - 16	—	—	—	Not Occupied	—	—

K114 Hybrid/EV Powertrain Control Module X7



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 13551679

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F YESC Kaizen Series (L-GY)

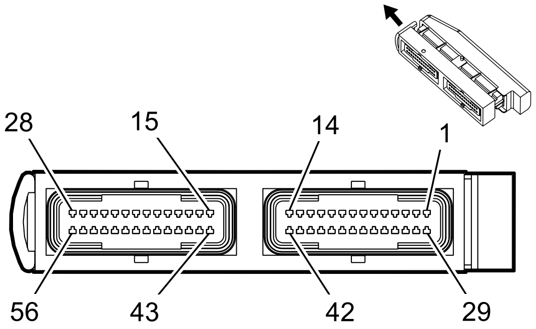
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

K114 Hybrid/EV Powertrain Control Module X7

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH	1511	Battery Cell Sensing Serial Data (-) (1)	I	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.35	WH	1626	Battery Cell Sensing Serial Data (-) (2)	I	—
5	0.35	WH	1510	Battery Cell Sensing Serial Data (+) (1)	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.35	WH	1625	Battery Cell Sensing Serial Data (+) (2)	I	—

K119 CNG Control Module (LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 211PC562S0009

Service Connector: Service by Harness – See Part Catalog

Description: 56-Way F 1.5 SICMA-3 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	2	4

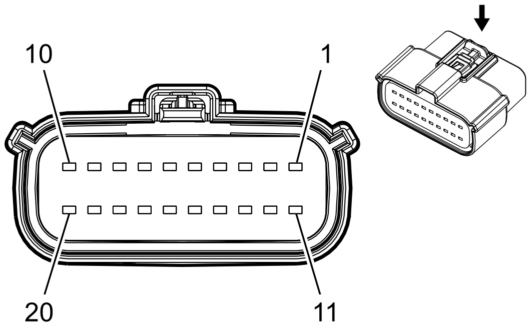
K119 CNG Control Module (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BU/OG	—	Coolant Temperature Input	I	—
2	0.5	RD/WH	—	5–Volt Output	I	—
3	0.5	BU/GN	—	Fuel Pressure Input	I	—
4	0.5	BU/RD	—	CNG Tank Temperature Input	I	—
5	—	—	—	Not Occupied	—	—
6	0.5	PU	—	Not Occupied	I	—
7	—	—	—	Not Occupied	—	—
8	0.5	WH	—	Alternative Fuel Enable Relay	I	—
9	0.5	WH/GN	—	Serial K	I	—
10	0.5	TN/BK	—	High Speed GMLAN Serial Data Bus (+)	I	—
11	—	—	—	Not Occupied	—	—
12	0.5	RD	—	Power	I	—
13	0.5	GN/RD	—	Not Occupied	I	—
14	0.5	GN/BK	—	CNG Tank Lock #1 Off Control	I	—
15	0.5	WH/BK	—	Alternative Fuel Injector 1 Control	I	—

16	0.5	WH/BN	—	Alternative Fuel Injector 2 Control	I	—
17	0.5	WH/RD	—	Alternative Fuel Injector 3 Control	I	—
18	0.5	WH/OG	—	Alternative Fuel Injector 4 Control	I	—
19	0.5	BK	—	Alternative Fuel Injector Ground	I	—
20	0.5	GN	—	Alternative Fuel Enable Relay	I	—
21	0.5	WH/YE	—	Alternative Fuel Injector 5 Control	I	—
22	0.5	WH/GN	—	Alternative Fuel Injector 6 Control	I	—
23	0.5	WH/BU	—	Alternative Fuel Injector 7 Control	I	—
24	0.5	WH/PU	—	Alternative Fuel Injector 8 Control	I	—
25	0.5	L-GN	—	OEM Injector Input 5	I	—
26	0.5	L-BU	—	OEM Injector Input 6	I	—
27	0.5	YE	—	OEM Injector Input 7	I	—
28	0.5	BU	—	OEM Injector Input 8	I	—
29	—	—	—	Not Occupied	—	—
30	0.5	BU/BK	—	Fuel Temp Sensor Input	I	—
31	0.5	GN/BU	—	Not Used	I	—
32-33	—	—	—	Not Occupied	—	—
32	0.5	YE	581	Throttle Actuator Control Open	I	-
33	—	—	—	Not Occupied	—	—
34	0.5	PU/BK	—	Not Used	I	—
35	—	—	—	Not Occupied	—	—
36	0.5	BU/YE	—	CNG Tank Pressure Input	I	—
37	0.5	GN/WH	—	CNG Switched 12 Volt Signal	I	—
38	0.5	TN	—	High Speed GMLAN Serial Data Bus (-)	I	—
39	0.5	BK	—	Ground	I	—
40	0.5	PK	—	OEM Injector Positive Voltage Bank 1	I	—
41	0.5	PK/WH	—	OEM Injector Positive Voltage Bank 2	I	—
42	0.5	GN/BK	—	CNG Tank Cut-Off 2 Control	I	—
43	0.5	TN	—	OEM Injector 1 Output	I	—
44	0.5	TN/GN	—	OEM Injector 1 Input	I	—
45	0.5	PK/BK	—	OEM Injector 2 Output	I	—

46	0.5	PK/GN	—	OEM Injector 2 Input	I	—
47	0.5	BK	—	CNG Injector Ground	I	—
48	0.5	GN	—	Switched Battery Positive	I	—
49	0.5	TN/WH	—	OEM Injector 3 Output	I	—
50	0.5	TN/BU	—	OEM Injector 3 Input	I	—
51	0.5	L-GN/D-BU	428	EVAP Canister Purge Solenoid Control	I	—
52	0.5	OG/BK	—	OEM Injector 4 Input	I	—
53	0.5	L-GN/BK	—	OEM Injector 5 Output	I	—
54	0.5	L-BU/BK	—	OEM Injector 6 Output	I	—
55	0.5	YE/BK	—	OEM Injector 7 Output	I	—
56	0.5	BU/WH	—	OEM Injector 8 Output	I	—

K130 Fuel Pump Disable Control Module (LC8)



Connector Part Information

Harness Type: CNG Engine

OEM Connector: 33472-2006

Service Connector: 19300557

Description: 20-Way F 150 MX Series, Sealed (BK)

Terminal Part Information

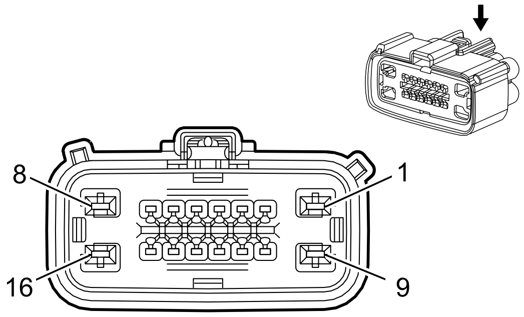
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616–2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available

K130 Fuel Pump Disable Control Module (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GN	—	Battery Positive Voltage	I	—
2	0.5	BK	—	Ground	I	—
3	0.5	GY	—	OEM Fuel Pump Voltage (IN)	I	—
4	0.5	GY/BK	—	OEM Fuel Pump Voltage (OUT)	I	—
5	—	—	—	Not Occupied	—	—
6	0.5	TN/RD	—	OEM Fuel Level Sensor Signal (IN)	I	—
7	0.5	RD/WH	—	5-Volt Output	I	—
8	—	—	—	Not Occupied	—	—
9	0.5	BU/RD	—	CNG Tank Temperature Sensor Signal	I	—
10	0.5	GN/WH	—	CNG Switched 12 Volt Signal	I	—
11-15	—	—	—	Not Occupied	—	—
16	0.5	TN/BK	—	OEM Fuel Level Sensor Signal (OUT)	I	—
17	0.5	RD/WH	—	5–Volt Reference Signal From CNG Module	I	—
18	—	—	—	Not Occupied	—	—
19	0.5	BU/RD	—	CNG Tank Temperature Output to CNG Module	I	—

20	—	—	—	Not Occupied	—	—

K133 Trailer Brake Power Control Module



Connector Part Information

Harness Type: Chassis

OEM Connector: 33181359

Service Connector: 13597503

Description: 16-Way F 1.5, 2.8 Series, Sealed (D-GY)

Terminal Part Information

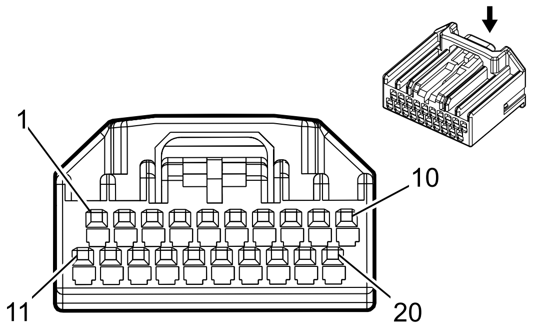
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13505803	J-35616-35 (VT)	J-38125-12A	1326030-8	13	4	D
II	13575808	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

K133 Trailer Brake Power Control Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	RD/L-GN	242	Battery Positive Voltage	I	—
2	0.5	WH/BK	2223	Trailer Brake Control Signal	II	—
3 - 4	—	—	—	Not Occupied	—	—
5	0.5	YE/BK	2224	Trailer Brake Enable Signal	II	—
6 - 7	—	—	—	Not Occupied	—	—
8	2.5	D-BU	47	Trailer Auxiliary Control	I	—
9	2.5	BK	1750	Ground	I	—
10 - 11	—	—	—	Not Occupied	—	—
12	0.5	L-GN/VT	4114	Local Interconnect Network Serial Data Bus 14	II	—

13 - 16	—	—	—	Not Occupied	—	—

K166L Multifunction LED Control Module - Left Headlamp (Z88 with SLT)



Connector Part Information

Harness Type: Left Headlamp

OEM Connector: MX34020SF1

Service Connector: Service by Harness – See Part Catalog

Description: 20 F 0.64 Series (GY)

Terminal Part Information

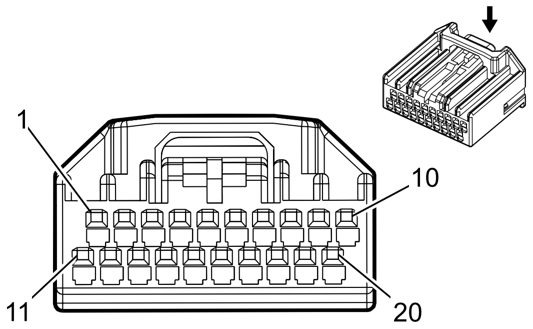
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K166L Multifunction LED Control Module - Left Headlamp (Z88 with SLT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	7538	Left Front DRL Supply Voltage	I	Z88
2	0.5	WH	709	Left Park Lamp Supply Voltage	I	Z88
3	0.5	WH	709	Left Park Lamp Supply Voltage	I	Z88
4	0.5	OG	-	Park/DRL LED +	I	Z88
5	0.5	VT	-	Park/DRL LED -	I	Z88
6	0.5	WH	-	Ground	I	Z88
7	0.5	RD	-	Park LED -	I	Z88
8	0.5	YE	-	Park LED +	I	Z88
9-10	-	-	-	Not Occupied	-	-
11	0.5	BK	150	Ground	I	Z88
12	0.5	D-BU	-	Park CTN	I	Z88
13	0.5	D-GN	-	Park BIN	I	Z88
14	0.5	PK	-	DRL CTN	I	Z88
15	0.5	L-GN	-	DRL BIN	I	Z88
16	0.5	L-BU	-	Ground	I	Z88

17	-	-	-	Not Occupied	-	-
18	0.5	L-BU	-	Ground	I	Z88
19	-	-	-	Not Occupied	-	-
20	0.5	BK	150	Ground	I	Z88

K166R Multifunction LED Control Module - Right Headlamp (Z88 with SLT)



Connector Part Information

Harness Type: Right Headlamp

OEM Connector: MX34020SF1

Service Connector: Service by Harness – See Part Catalog

Description: 20 F 0.64 Series (GY)

Terminal Part Information

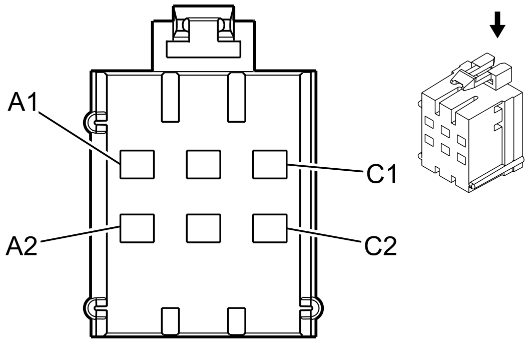
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

K166R Multifunction LED Control Module - Right Headlamp (Z88 with SLT)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	7539	Right Front DRL Supply Voltage	I	Z88
2	0.5	WH	309	Right Park Lamp Supply Voltage	I	Z88
3	0.5	WH	309	Right Park Lamp Supply Voltage	I	Z88
4	0.5	OG	-	Park/DRL LED +	I	Z88
5	0.5	VT	-	Park/DRL LED -	I	Z88
6	0.5	WH	-	Ground	I	Z88
7	0.5	RD	-	Park LED -	I	Z88
8	0.5	YE	-	Park LED +	I	Z88
9-10	-	-	-	Not Occupied	-	-
11	0.5	BK	250	Ground	I	Z88
12	0.5	D-BU	-	Park CTN	I	Z88
13	0.5	D-GN	-	Park BIN	I	Z88
14	0.5	PK	-	DRL CTN	I	Z88
15	0.5	L-GN	-	DRL BIN	I	Z88
16	0.5	L-BU	-	Ground	I	Z88

17	-	-	-	Not Occupied	-	-
18	0.5	L-BU	-	Ground	I	Z88
19	-	-	-	Not Occupied	-	-
20	0.5	BK	250	Ground	I	Z88

KR58 Roof Beacon Relay



Connector Part Information

Harness Type: Overhead Console

OEM Connector: 12110541

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 280 Metri-Pack Series, Flexlock (BK)

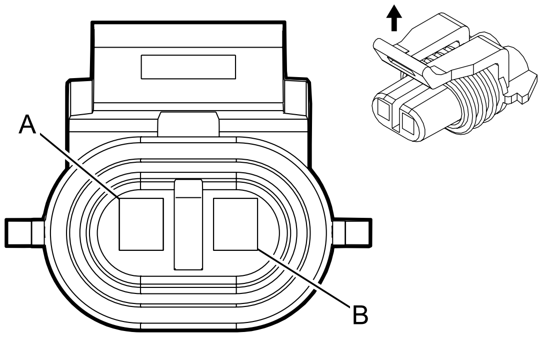
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

KR58 Roof Beacon Relay

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1	0.35	BK	1050	Ground	I	—
A2	2.5	L-GN/D-BU	5989	Emergency Lamp Relay Contact Control	I	—
B1 - B2	—	—	—	Not Occupied	—	—
C1	2.5	RD/L-GN	3140	Battery Positive Voltage	I	—
C2	0.5	WH/BK	5990	Emergency Lamp Switch Signal	I	—

KR79 Auxiliary Battery Relay 2 X1 (K4B or K4D)



Connector Part Information

Harness Type: Battery Auxiliary

OEM Connector: 12052641

Service Connector: 13586114

Description: 2–Way F, 150 Metri-Pack Series (BK)

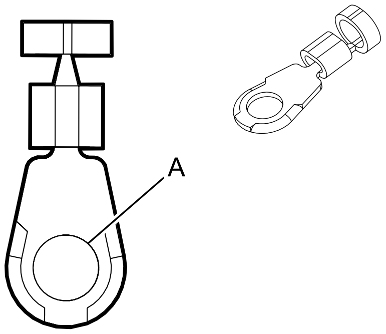
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

KR79 Auxiliary Battery Relay 2 X1 (K4B or K4D)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	RD/BU	4540	Battery Positive Voltage	I	-
B	0.5	BK	550	Ground	I	-

KR79 Auxiliary Battery Relay 2 X2 (K4B or K4D)



Connector Part Information

- Harness Type: Battery Auxiliary
- OEM Connector: 00012131
- Service Connector: Service by Harness - See Part Catalog
- Description: Ring Terminal

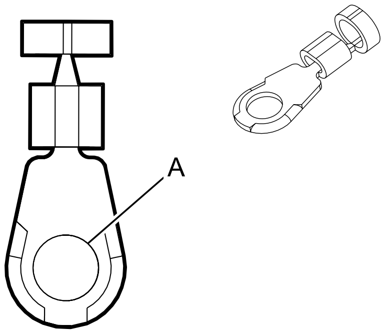
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Service by Harness — See Part Catalog	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

KR79 Auxiliary Battery Relay 2 X2 (K4B or K4D)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	10	RD/VT	842	Battery Positive Voltage	I	—

KR79 Auxiliary Battery Relay 2 X3 (K4B or K4D)



Connector Part Information

Harness Type: Battery Auxiliary

OEM Connector: 00012131

Service Connector: Service by Harness - See Part Catalog

Description: Ring Terminal

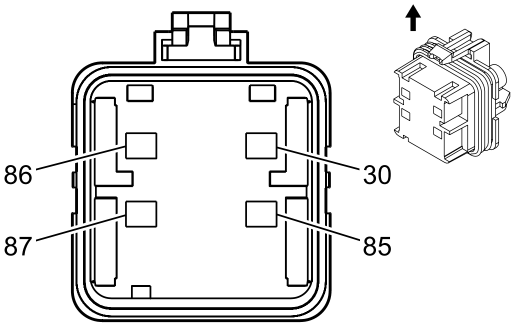
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Service by Harness — See Part Catalog	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

KR79 Auxiliary Battery Relay 2 X3 (K4B or K4D)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	16	RD/GN	742	Battery Positive Voltage	I	—

KR81 Auxiliary Battery Relay 1 (K4B or K4D)



Connector Part Information

Harness Type: Battery Auxiliary

OEM Connector: 12129716

Service Connector: 15306045

Description: 4–Way F, 280 Metri-Pack Series, Flexlock, Sealed (GY)

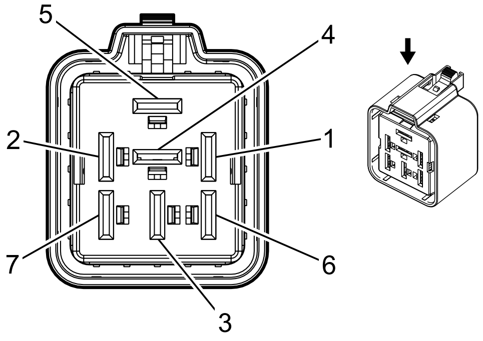
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

KR81 Auxiliary Battery Relay 1 (K4B or K4D)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
30	0.5	RD/BU	4540	Battery Positive Voltage	I	-
85	0.5	BK	550	Ground	I	-
86	0.5	VT/BN	300	Run Ignition 3 Voltage	I	-
87	0.5	RD/BU	4540	Battery Positive Voltage	I	-

KR145 Alternative Fuel Injector Relay (LC8)



Connector Part Information

Harness Type: CNG Engine

OEM Connector: 60430141

Service Connector: 13587774

Description: 7-Way F 6.3 Series, Sealed (BK)

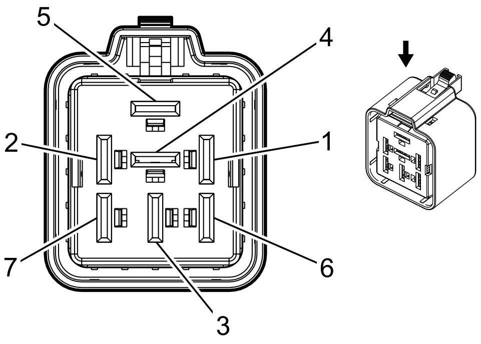
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616–42 (RD)	Not Available	Not Available	Not Available	Not Available	Not Available

KR145 Alternative Fuel Injector Relay (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	RD	—	Battery Positive Voltage	I	—
2	0.8	WH/GN	—	Control	I	—
3	5	RD	—	Switched Battery Positive Voltage	I	—
4	—	—	—	Not Occupied	—	—
5	5	GN	—	Battery Positive Voltage	I	—
6-7	—	—	—	Not Occupied	—	—

KR160 Fuel Pump Disable Relay (LC8)



Connector Part Information

Harness Type: CNG Rear

OEM Connector: 60430141

Service Connector: 13587774

Description: 7-Way F 6.3 Series, Sealed (BK)

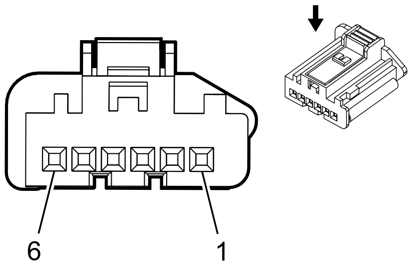
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616–42 (RD)	Not Available	Not Available	Not Available	Not Available	Not Available

KR160 Fuel Pump Disable Relay (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	GY/BK	—	OEM Fuel Pump Voltage (OUT)	I	—
2	0.8	BK	—	Ground	I	—
3	2	GY	—	OEM Fuel Pump Voltage (IN)	I	—
4	—	—	—	Not Occupied	—	—
5	2	GY/BK	—	Fuel Pump Supply Voltage	I	—
6-7	—	—	—	Not Occupied	—	—

M4 Air Inlet Actuator



Connector Part Information

Harness Type: HVAC

OEM Connector: 13576054

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 Micro Quadlock Series (BK)

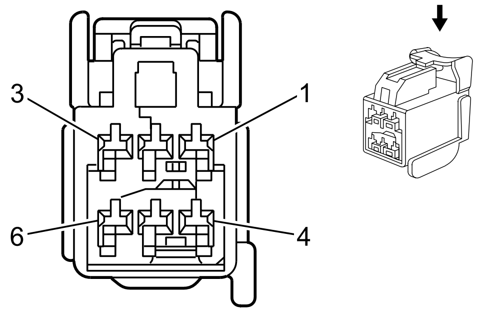
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

M4 Air Inlet Actuator

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/YE	1791	Air Temperature Door Control Low Reference	I	-
2	0.35	VT/L-GN	1838	Recirculation Door Position Signal	I	-
3	0.35	GY/RD	598	5 Volt Reference	I	-
4	-	-	-	Not Occupied	-	-
5	0.35	D-GN	1614	Recirculation Door Control	I	-
6	0.35	YE/BK	2274	Recirculation Door Control	I	-

M5 Adjustable Pedal Motor



Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 10846805

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 1.5 Kaizen Series (L-GY)

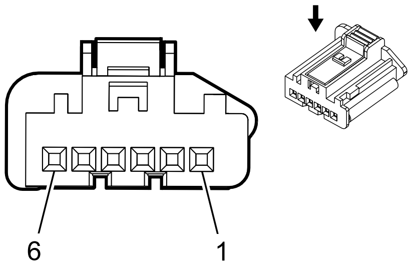
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

M5 Adjustable Pedal Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN/VT	5130	Adjustable Pedal Actuator Forward Control	I	—
2	0.5	D-BU	5952	Adjustable Pedal Position Sensor Brake Signal	I	—
3	0.5	BK/GY	6206	Memory Sensor Low Reference	I	—
4	1.5	YE	5129	Adjustable Pedal Actuator Rearward Control	I	—
5	0.5	WH/RD	6207	Memory Sensor High Reference	I	—
6	—	—	—	Not Occupied	—	—

M6L Air Temperature Door Actuator - Left



Connector Part Information

Harness Type: HVAC

OEM Connector: 13576054

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 Micro Quadlock Series (BK)

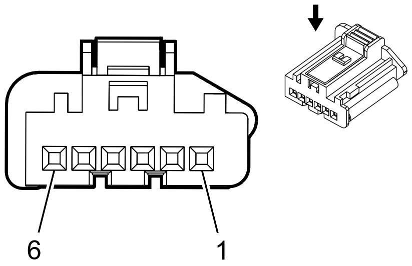
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

M6L Air Temperature Door Actuator - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/YE	1791	Air Temperature Door Control Low Reference	I	-
2	0.35	D-BU/YE	733	Air Temperature Door Position Signal	I	-
3	0.35	GY/RD	598	5 Volt Reference	I	-
4	-	-	-	Not Occupied	-	-
5	0.35	L-BU/BN	1199	Air Temperature Door Control	I	-
6	0.35	GY/D-GN	2210	Air Temperature Door Control	I	-

M6R Air Temperature Door Actuator - Right (CJ2)



Connector Part Information

Harness Type: HVAC

OEM Connector: 13576054

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 Micro Quadlock Series (BK)

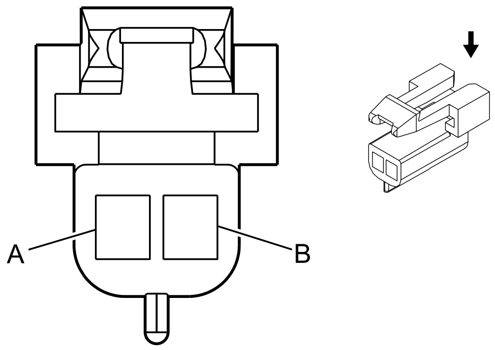
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

M6R Air Temperature Door Actuator - Right (CJ2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/YE	1791	Air Temperature Door Control Low Reference	I	-
2	0.35	BN/L-BU	1646	Passenger Air Temperature Door Position Signal	I	-
3	0.35	GY/RD	598	5 Volt Reference	I	-
4	-	-	-	Not Occupied	-	-
5	0.35	WH/BK	1236	Passenger Air Temperature Door Control	I	-
6	0.35	GY/BK	2778	Passenger Air Temperature Motor Control	I	-

M7 Transmission Shift Lock Control Solenoid Actuator (M5U, MW7, MYC or MYD)



Connector Part Information

Harness Type: Steering Column

OEM Connector: 12052832

Service Connector: 13583033

Description: 2-Way F 150 Metri Pack Series (BK)

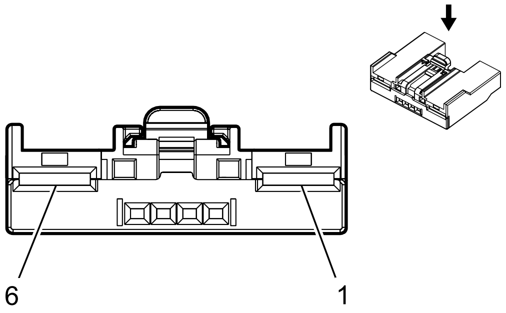
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M7 Transmission Shift Lock Control Solenoid Actuator (M5U, MW7, MYC or MYD)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/WH	816	Brake Transmission Shift Interlock Solenoid Control	I	-
2	0.5	BK/WH	1851	Signal Ground	I	-

M8 Blower Motor



Connector Part Information

Harness Type: HVAC

OEM Connector: 10864043

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 GET, 6.3 Series (BK)

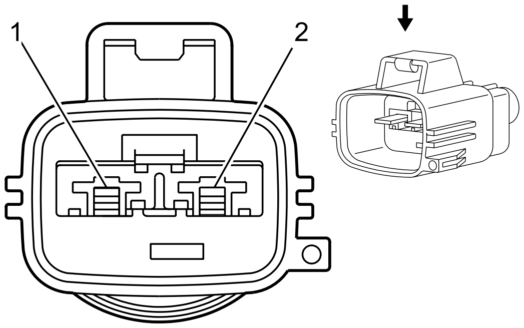
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

M8 Blower Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	4	RD/VT	542	Battery Positive Voltage	I	-
2	0.35	D-BU/GY	754	Blower Motor Speed Control	I	-
3-5	-	-	-	Not Occupied	-	-
6	5	BK	1050	Ground	I	-

M9 Brake Booster Pump Motor



Connector Part Information

Harness Type: Engine

OEM Connector: 15425573

Service Connector: 88953304

Description: 2-Way M 6.3 Weather Pack Series (D-GY)

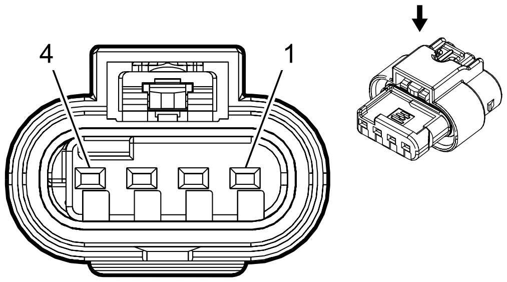
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-43 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required

M9 Brake Booster Pump Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BN/VT	1470	Brake Booster Pump Motor Control	I	—
2	2.5	BK	550	Ground	I	—

M26 Front Axle Engagement Actuator



Connector Part Information

Harness Type: Front Axle

OEM Connector: 13817132

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 1.2 Multiple Contact Point Series, Sealed (BK)

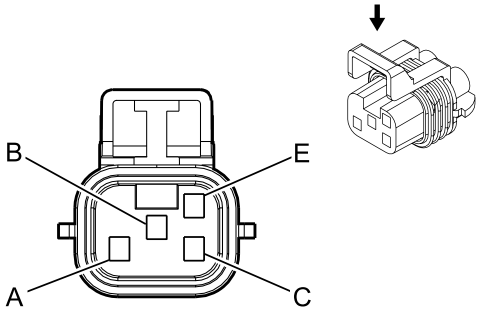
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

M26 Front Axle Engagement Actuator

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage	I	—
2	0.5	GY/BK	1570	Front Axle Actuator Control	I	—
3	0.5	YE/WH	1695	Four Wheel Drive Wheel Lock Indicator Control	I	—
4	0.5	BK	550	Ground	I	—

M26 Front Axle Engagement Actuator (2500 or 3500) with (NQF or NQG)



Connector Part Information

Harness Type: Front Axle

OEM Connector: 15324541

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 Metri-Pack Series, Sealed (BU)

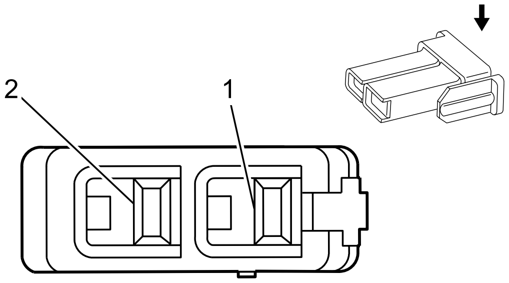
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

M26 Front Axle Engagement Actuator (2500 or 3500) with (NQF or NQG)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	YE/WH	1695	Four Wheel Drive Wheel Lock Indicator Control	I	—
B	0.5	GY/BK	1570	Front Axle Actuator Control	I	—
C	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage	I	—
E	0.5	BK	550	Ground	I	—

M28L High Beam Solenoid Actuator - Left (Z88)



Connector Part Information

Harness Type: Left Headlamp

OEM Connector: XLP-02V

Service Connector: Service by Harness – See Part Catalog

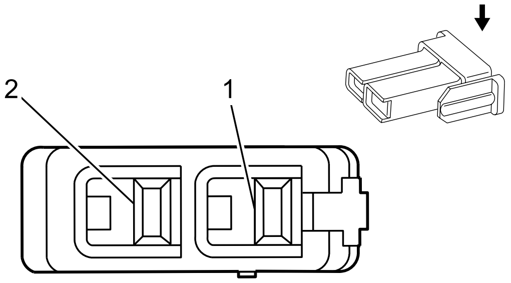
Description: 2-Way F XL Series (WH)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M28L High Beam Solenoid Actuator - Left (Z88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	TN	-	High Beam Solenoid -	I	-
2	0.5	GY	-	High Beam Solenoid +	I	-



Connector Part Information

Harness Type: Right Headlamp

OEM Connector: XLP-02V

Service Connector: Service by Harness – See Part Catalog

Description: 2-Way F XL Series (WH)

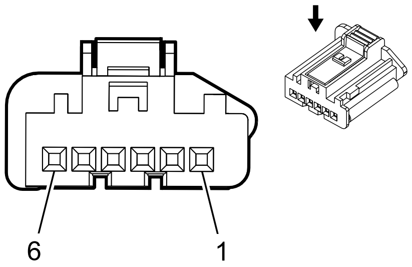
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M28R High Beam Solenoid Actuator - Right (Z88)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	TN	-	High Beam Solenoid -	I	-
2	0.5	GY	-	High Beam Solenoid +	I	-

M37L Mode Door Actuator - Left



Connector Part Information

Harness Type: HVAC

OEM Connector: 13576054

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 Micro Quadlock Series (BK)

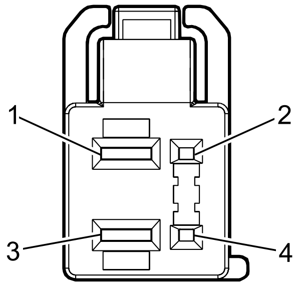
Terminal Part Information

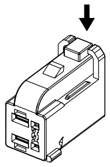
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	Not Available	Not Available	Not Available	Not Available	Not Available

M37L Mode Door Actuator - Left

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/YE	1791	Air Temperature Door Control Low Reference	I	-
2	0.35	WH/D-GN	2275	Mode 1 Valve Position Sensor Signal	I	-
3	0.35	GY/RD	598	5 Volt Reference	I	-
4	-	-	-	Not Occupied	-	-
5	0.35	WH	119	Mode Door Control	I	-
6	0.35	YE/BN	2273	Mode Door Control	I	-

M50D Seat Front Vertical Motor - Driver





Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 3-023-66-52

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64, 2.8 Series (BN)

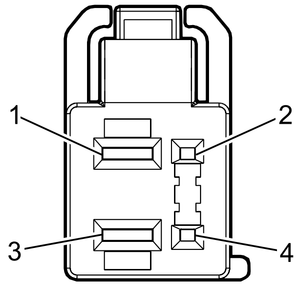
Terminal Part Information

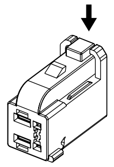
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

M50D Seat Front Vertical Motor - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN/BR	286	Driver Power Seat Front Vertical Motor Up Control	I	—
2	0.35	WH/RD	3298	Memory Sensor High Reference (2)	II	—
3	1.5	L-BU/VT	287	Driver Power Seat Front Vertical Motor Down Control	I	—
4	0.5	BR/WH	557	Memory Seat Front Vertical Motor Position Sensor Signal	II	—

M50P Seat Front Vertical Motor - Passenger





Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 3-023-66-52

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64, 2.8 Series (BN)

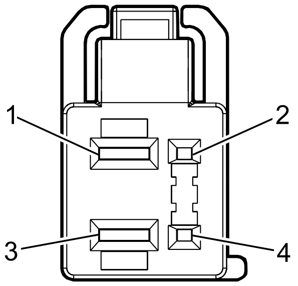
Terminal Part Information

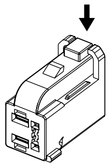
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

M50P Seat Front Vertical Motor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN/L-BU	298	Passenger Power Seat Front Vertical Motor Down Control	I	—
2	—	—	—	Not Occupied	—	—
3	1.5	L-GN/VT	297	Passenger Power Seat Front Vertical Motor Up Control	I	—
4	—	—	—	Not Occupied	—	—

M51D Seat Horizontal Motor - Driver





Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 3-023-66-52

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64, 2.8 Series (BN)

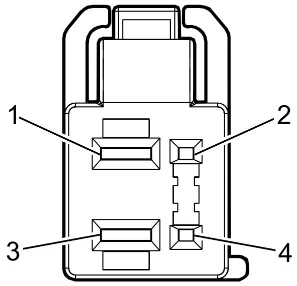
Terminal Part Information

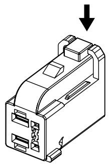
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

M51D Seat Horizontal Motor - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	YE/L-BU	285	Driver Power Seat Horizontal Motor Forward Control	I	—
2	0.35	WH/RD	3298	Memory Sensor High Reference (2)	II	—
3	1.5	GY/L-GN	284	Driver Power Seat Horizontal Motor Rearward Control	I	—
4	0.5	L-GN	569	Memory Seat Horizontal Motor Position Sensor Signal	II	—

M51P Seat Horizontal Motor - Passenger





Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 3-023-66-52

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64, 2.8 Series (BN)

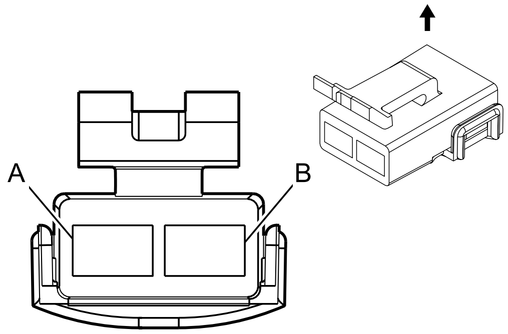
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

M51P Seat Horizontal Motor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	YE/L-BU	290	Passenger Power Seat Horizontal Motor Rearward Control	I	—
2	—	—	—	Not Occupied	—	—
3	1.5	YE/WH	296	Passenger Power Seat Horizontal Motor Forward Control	I	—
4	—	—	—	Not Occupied	—	—

M52D Seat Lumbar Support Horizontal Motor - Driver



Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 12020556

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 480 Metri-Pack Series (BK)

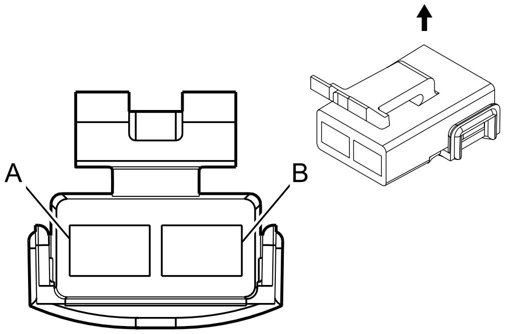
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-40 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required

M52D Seat Lumbar Support Horizontal Motor - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	L-BU	611	Driver Power Seat Lumbar Motor Forward Control	I	—
B	1.5	VT	610	Driver Power Seat Lumbar Motor Rearward Control	I	—

M52P Seat Lumbar Support Horizontal Motor - Passenger



Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 12020556

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 480 Metri-Pack Series (BK)

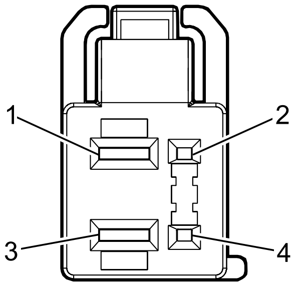
Terminal Part Information

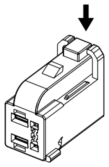
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-40 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required

M52P Seat Lumbar Support Horizontal Motor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	L-BU	211	Passenger Power Seat Lumbar Motor Forward Control	I	—
B	1.5	VT	210	Passenger Power Seat Lumbar Motor Rearward Control	I	—

M55D Seat Rear Vertical Motor - Driver





Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 3-023-66-52

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64, 2.8 Series (BN)

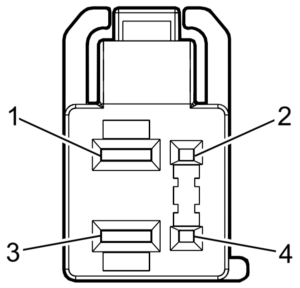
Terminal Part Information

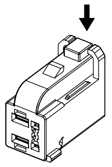
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

M55D Seat Rear Vertical Motor - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	GY/L-BU	283	Driver Power Seat Rear Vertical Motor Down Control	I	—
2	0.35	WH/RD	3298	Memory Sensor High Reference (2)	II	—
3	1.5	YE	282	Driver Power Seat Rear Vertical Motor Up Control	I	—
4	0.5	YE/L-BU	568	Memory Seat Rear Vertical Motor Position Sensor Signal	II	—

M55P Seat Rear Vertical Motor - Passenger





Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 3-023-66-52

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64, 2.8 Series (BN)

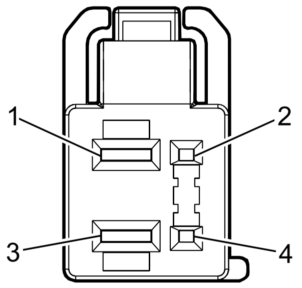
Terminal Part Information

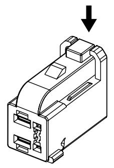
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

M55P Seat Rear Vertical Motor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN/WH	288	Passenger Power Seat Rear Vertical Motor Up Control	I	—
2	—	—	—	Not Occupied	—	—
3	1.5	L-BU/WH	289	Passenger Power Seat Rear Vertical Motor Down Control	I	—
4	—	—	—	Not Occupied	—	—

M56D Seat Recline Motor - Driver





Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 3-023-66-52

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64, 2.8 Series (BN)

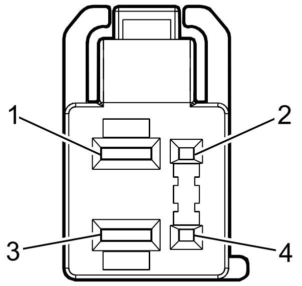
Terminal Part Information

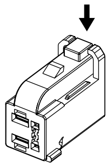
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

M56D Seat Recline Motor - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN/YE	276	Driver Power Seat Recline Motor Forward Control	I	—
2	0.35	WH/RD	3298	Memory Sensor High Reference (2)	II	—
3	1.5	L-BU/YE	277	Driver Power Seat Recline Motor Rearward Control	I	—
4	0.35	WH/BK	570	Driver Memory Seat Recline Motor Position Sensor Signal	II	—

M56P Seat Recline Motor - Passenger





Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 3-023-66-52

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64, 2.8 Series (BN)

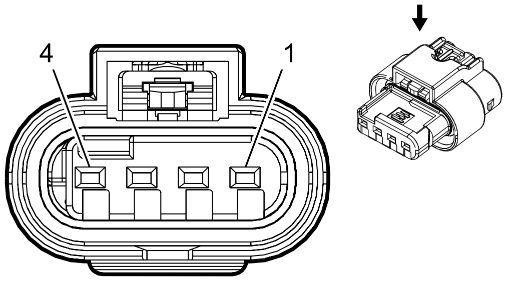
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

M56P Seat Recline Motor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN	76	Passenger Power Seat Recline Motor Forward Control	I	—
2	—	—	—	Not Occupied	—	—
3	1.5	L-BU/BR	77	Passenger Power Seat Recline Motor Rearward Control	I	—
4	—	—	—	Not Occupied	—	—

M60A Active Grille Air Shutter 1 Motor Module



Connector Part Information

Harness Type: Active Shutter Jumper

OEM Connector: 13576420

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 1.2 MCP Series, Sealed (BK)

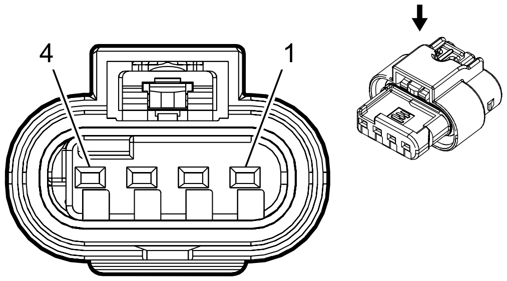
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M60A Active Grille Air Shutter 1 Motor Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	3891	Aero Shutter Control	I	XFE
2	0.5	BK	250	Ground	I	XFE
3	0.5	WH/VT	4333	Aero Shutter Actuator Supply Voltage	I	XFE
4	-	-	-	Not Occupied	-	-

M60B Active Grille Air Shutter 2 Motor Module



Connector Part Information

Harness Type: Active Shutter Jumper

OEM Connector: 13576420

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 1.2 MCP Series, Sealed (BK)

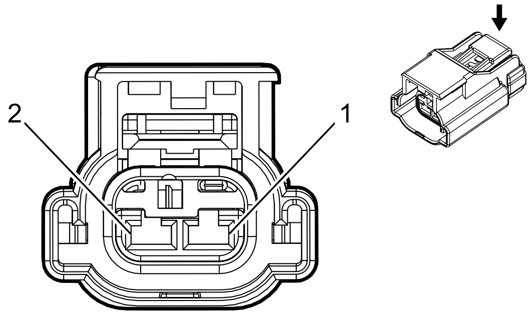
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M60B Active Grille Air Shutter 2 Motor Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY	3890	Aero Shutter Control 2	I	XFE
2	0.5	BK	250	Ground	I	XFE
3	0.5	WH/VT	4333	Aero Shutter Actuator Supply Voltage	I	XFE
4	-	-	-	Not Occupied	-	-

M63 Sliding Rear Window Motor



Connector Part Information

Harness Type: Body

OEM Connector: 13863838

Service Connector: 19301518

Description: 2-Way F 2.8 Series, Sealed (BK)

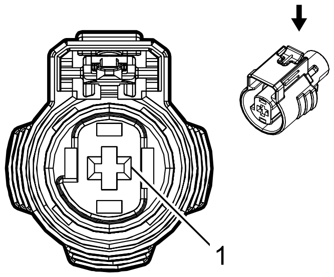
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

M63 Sliding Rear Window Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	GY/L-GN	5441	Endgate Window Regulator Down Signal	I	—
2	2.5	YE/D-BU	5442	Endgate Window Regulator Up Signal	I	—

M64 Starter Motor (L83/L86/L8B)



Connector Part Information

Harness Type: Engine

OEM Connector: 15526411

Service Connector: 19300471

Description: 1-Way F 2.8 MCP Series, Sealed (BK)

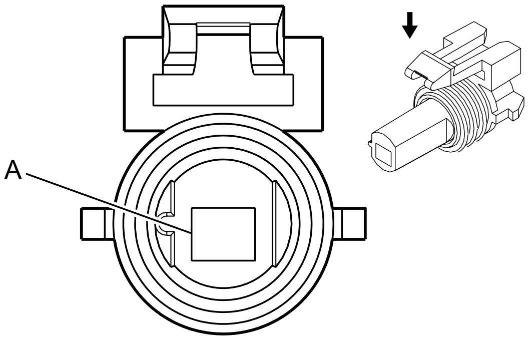
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

M64 Starter Motor (L83/L86/L8B)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	4	YE	6	Starter Solenoid Crank Ignition Voltage	I	—

M64 Starter Motor (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 12089916

Service Connector: 13584479

Description: 1-Way F 280 Metri-Pack Series, Sealed (GY)

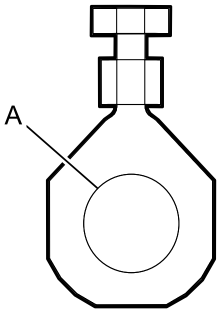
Terminal Part Information

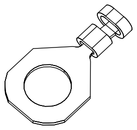
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

M64 Starter Motor (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	4	YE	6	Starter Solenoid Crank Ignition Voltage	I	—

M64 Starter Motor (LML)





Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 12103519

Service Connector: Service by Cable Assembly - See Part Catalog

Description: 1-Way Ring Terminal

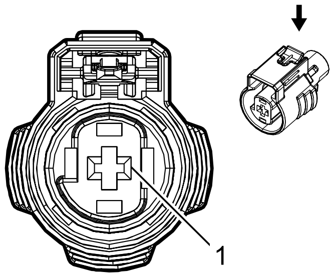
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	No Tool Required	No Tool Required	Not Required	Not Required	Not Required	Not Required

M64 Starter Motor (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	—	—	—	Not Occupied	—	—

M64 Starter Motor (LV1/LV3)



Connector Part Information

Harness Type: Engine

OEM Connector: 15526411

Service Connector: 19300471

Description: 1-Way F 2.8 MCP Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

M64 Starter Motor (LV1/LV3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	4	YE	6	Starter Solenoid Crank Ignition Voltage	I	—

M69 Sunroof Motor

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Connector Part Information

Harness Type: Sunroof Jumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 12–Way

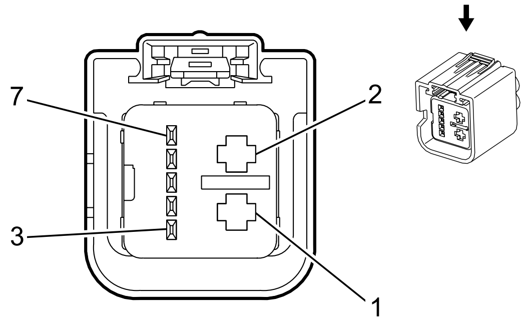
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M69 Sunroof Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT/YE	43	Accessory Voltage	I	CF5
2	0.35	BN/BU	2074	Sunroof Switch Express Signal	I	CF5
3	-	-	-	Not Occupied	-	-
4	0.35	YE/VT	144	Sunroof Switch Open Vent Signal	I	CF5
5	0.35	BU/WH	110	Sunroof Switch Close Signal	I	CF5
6	0.35	GY/VT	2075	Sunroof Switch Close Vent Signal	I	CF5
7	0.35	GN/WH	100	Sunroof Switch Open Signal	I	CF5
8	2.5	RD/GN	3140	Battery Positive Voltage	I	CF5
9-11	-	-	-	Not Occupied	-	-
12	2.5	BK	1050	Ground	I	CF5

M74D Window Motor - Driver



Connector Part Information

Harness Type: Driver Door

OEM Connector: 15504732

Service Connector: Service by Harness - See Part Catalog

Description: 7-Way F 0.64, 2.8 Kaizen Timer Series, Sealed (BK)

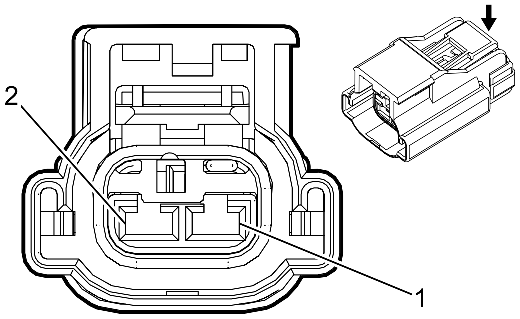
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

M74D Window Motor - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BK	1150	Ground	I	—
2	2.5	RD/D-BU	1842	Battery Positive Voltage	I	—
3	0.35	L-GN/WH	1300	Power Window Master Switch Left Front Up Signal	II	—
4	0.5	L-GN/YE	6134	Local Interconnect Network Serial Data Bus 3	II	—
5	0.35	L-GN/VT	7628	Power Window Motor Left Front Express Control	II	—
6	0.35	GY	745	Left Front Door Ajar Switch Signal	II	—
7	0.35	GY	1136	Power Window Master Switch Left Front Down Signal	II	—

M74LR Window Motor - Left Rear



Connector Part Information

Harness Type: Left Rear Door

OEM Connector: 13896059

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 2.8 APEX Series, Sealed (BK)

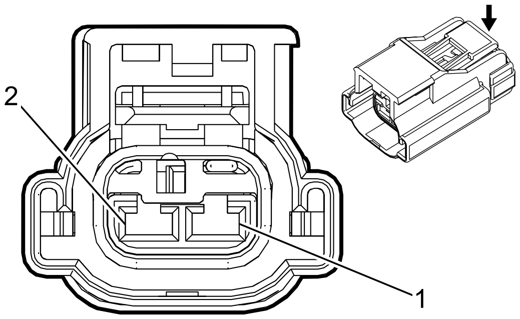
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

M74LR Window Motor - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	D-BU/VT	668	Power Window Motor Left Rear Up Control	I	—
2	2.5	YE/D-BU	669	Power Window Motor Left Rear Down Control	I	—

M74P Window Motor - Passenger



Connector Part Information

Harness Type: Passenger Door

OEM Connector: 13896059

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 2.8 APEX Series, Sealed (BK)

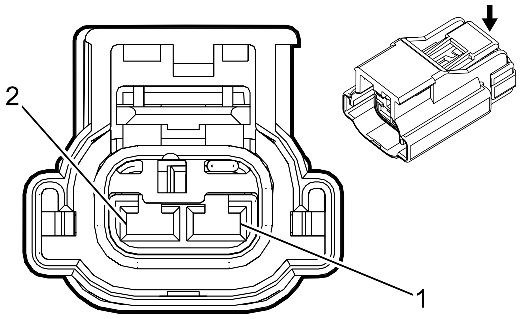
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

M74P Window Motor - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	YE/D-BU	3388	Power Window Motor Passenger Down Control	I	—
2	2.5	L-GN/GY	3387	Power Window Motor Passenger Up Control	I	—

M74RR Window Motor - Right Rear



Connector Part Information

Harness Type: Right Rear Door

OEM Connector: 13896059

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 2.8 APEX Series, Sealed (BK)

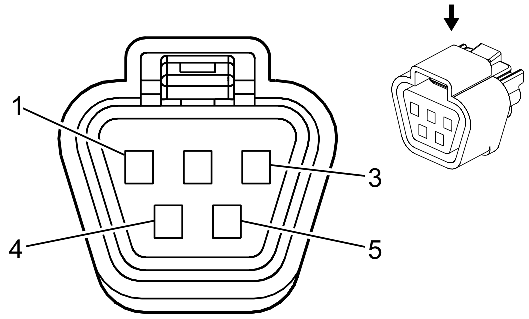
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

M74RR Window Motor - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	D-BU/GY	670	Power Window Motor Right Rear Up Control	I	—
2	2.5	L-GN/BK	671	Power Window Motor Right Rear Down Control	I	—

M75 Windshield Wiper Motor



Connector Part Information

Harness Type: Body

OEM Connector: 15316488

Service Connector: 13587179

Description: 5-Way F 090 Series, Sealed (GY)

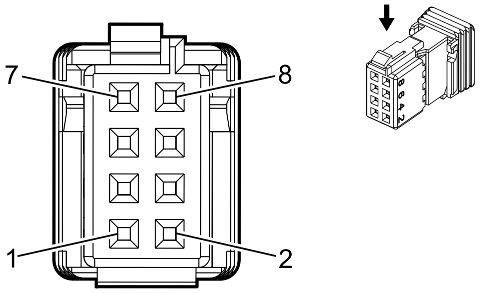
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-18 (BK)	Not Required	Not Required	Not Required	Not Required	Not Required

M75 Windshield Wiper Motor

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	YE/BN	95	Windshield Wiper Motor Low Speed Control	I	—
2	0.5	BK	1850	Ground	I	—
3	0.5	BN/L-GN	196	Windshield Wiper Motor Park Switch Signal	I	—
4	1	WH	92	Windshield Wiper Motor High Speed Control	I	—
5	1	BK	550	Ground	I	—

M77D Outside Rearview Mirror Motor - Driver (DL3, DL8, DPN or DQS)



Connector Part Information

Harness Type: Outside Rearview Mirror – Driver

OEM Connector: Not Available

Service Connector: Service by Component – See Part Catalog

Description: 8-Way F (L-GN)

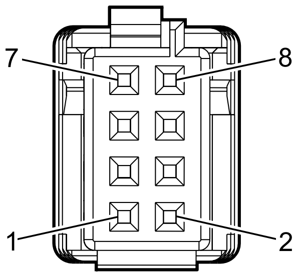
Terminal Part Information

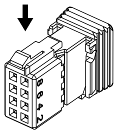
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M77D Outside Rearview Mirror Motor - Driver (DL3, DL8, DPN or DQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN	3392	Driver Mirror Position Sensor High Reference	I	A45
2	0.35	GN/WH	3389	Driver Mirror Motor Right (+) Left (-) Control	I	-
3	0.35	GY	3395	Driver Mirror Position Sensor Left (-) Right (+) Signal	I	A45
4	0.35	WH	3391	Driver Mirror Motor Common Control	I	-
5	0.35	GN	3394	Driver Mirror Position Sensor Up (+) Down (-) Signal	I	A45
6	-	-	-	Not Occupied	-	-
7	0.35	BU	3393	Driver Mirror Position Sensor Low Reference	I	A45
8	0.35	BU/WH	3390	Driver Mirror Motor Up (+) Down (-) Control	I	-

M77P Outside Rearview Mirror Motor - Passenger (DL3, DL8, DPN or DQS)





Connector Part Information

Harness Type: Outside Rearview Mirror – Passenger

OEM Connector: Not Available

Service Connector: Service by Component – See Part Catalog

Description: 8-Way F (L-GN)

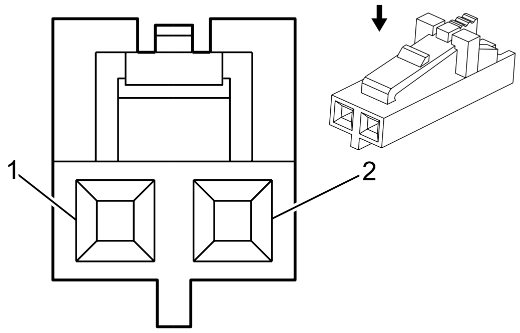
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M77P Outside Rearview Mirror Motor - Passenger (DL3, DL8, DPN or DQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN	3399	Co-Driver Mirror Position Sensor High Reference	I	A45
2	0.35	GN/WH	3396	Co-Driver Mirror Motor Right (+) Left (-) Control	I	-
3	0.35	GY	3403	Co-Driver Mirror Position Sensor Left (-) Right (+) Signal	I	A45
4	0.35	WH	3398	Co-Driver Mirror Motor Common Control	I	-
5	0.35	GN	3401	Co-Driver Mirror Position Sensor Up (+) Down (-) Signal	I	A45
6	-	-	-	Not Occupied	-	-
7	0.35	BU	3400	Co-Driver Mirror Position Sensor Low Reference	I	A45
8	0.35	BU/WH	3397	Co-Driver Mirror Motor Up (+) Down (-) Control	I	-

M78D Outside Rearview Mirror Folding Motor - Driver (DL3 or DQS)



Connector Part Information

Harness Type: Outside Rearview Mirror - Driver

OEM Connector: 50-57-9402

Service Connector: Service by Component - See Part Catalog

Description: 2-Way F 0.64 SL Series (BK)

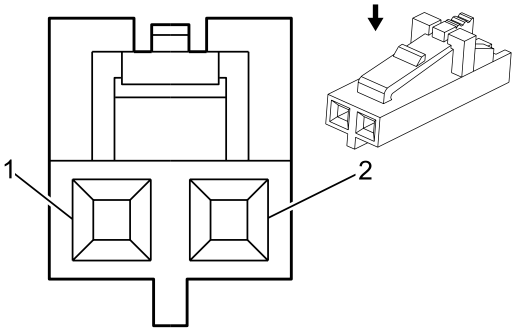
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M78D Outside Rearview Mirror Folding Motor - Driver (DL3 or DQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	3411	Driver Mirror Motor Fold Out Control	I	-
2	0.35	L-BU	3412	Driver Mirror Motor Fold In Control	I	-

M78P Outside Rearview Mirror Folding Motor - Passenger (DL3 or DQS)



Connector Part Information

Harness Type: Outside Rearview Mirror - Passenger

OEM Connector: 50-57-9402

Service Connector: Service by Component - See Part Catalog

Description: 2-Way F 0.64 SL Series (BK)

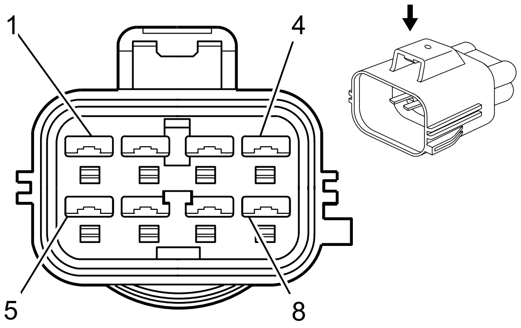
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M78P Outside Rearview Mirror Folding Motor - Passenger (DL3 or DQS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	3413	Co-Driver Mirror Motor Fold Out Control	I	-
2	0.35	L-BU	3414	Co-Driver Mirror Motor Fold In Control	I	-

M95L Assist Step - Left X1 (BRS)



Connector Part Information

Harness Type: Chassis

OEM Connector: 15419459

Service Connector: 19167744

Description: 8-Way M 2.8 Series, Sealed (D-GY)

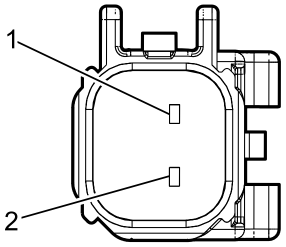
Terminal Part Information

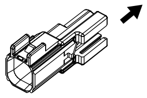
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

M95L Assist Step - Left X1 (BRS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2	WH/BN	7471	Articulating Running Boards Motor Left Control Extend	I	—
2	0.5	VT/RD	7468	Running Boards Motor Hall Sensor Left 5 Volt Reference	I	—
3	0.5	YE	7467	Running Boards Motor Hall Sensor Left Signal	I	—
4	0.5	YE/BN	7466	Running Boards Motor Hall Sensor Left Low Reference	I	—
5	2	GY	7472	Articulating Running Boards Motor Left Control Retract	I	—
6	—	—	—	Not Occupied	—	—
7	0.5	BN/WH	9001	Assist Step Switch Signal Left	I	—
8	0.5	BN/WH	9002	Low Reference	I	—

M95L Assist Step - Left X2 (BRS)





Connector Part Information

Harness Type: Left Running Board Jumper

OEM Connector: 13503926

Service Connector: Service by Harness – See Part Catalog

Description: 2-Way M 1.5 Series, Sealed (BK)

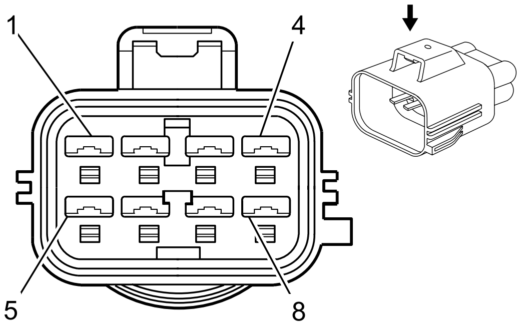
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M95L Assist Step - Left X2 (BRS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	9001	Assist Step Switch Signal Left	I	—
2	0.5	BN/WH	9002	Low Reference	I	—

M95R Assist Step - Right X1 (BRS)



Connector Part Information

Harness Type: Chassis

OEM Connector: 15419459

Service Connector: 19167744

Description: 8-Way M 2.8 Series, Sealed (D-GY)

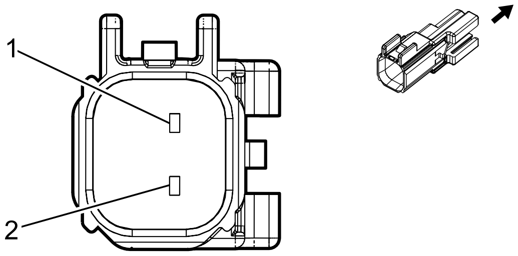
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

M95R Assist Step - Right X1 (BRS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2	D-BU	7470	Articulating Running Boards Motor Right Control Extend	I	—
2	0.5	L-GN/RD	7464	Running Boards Motor Hall Sensor Right 5 Volt Reference	I	—
3	0.5	VT	7465	Running Boards Motor Hall Sensor Right Signal	I	—
4	0.5	YE/BK	7463	Running Boards Motor Hall Sensor Right Low Reference	I	—
5	2	L-GN	7469	Articulating Running Boards Motor Right Control Retract	I	—
6	—	—	—	Not Occupied	—	—
7	0.5	BN/WH	9000	Assist Step Switch Signal Right	I	—
8	0.5	BN/WH	9002	Low Reference	I	—

M95R Assist Step - Right X2 (BRS)



Connector Part Information

Harness Type: Right Running Board Jumper

OEM Connector: 13503926

Service Connector: Service by Harness – See Part Catalog

Description: 2-Way M 1.5 Series, Sealed (BK)

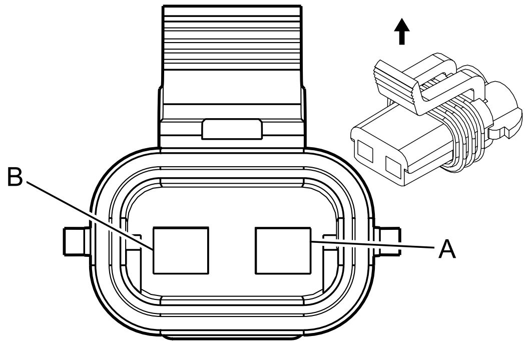
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

M95R Assist Step - Right X2 (BRS)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/WH	9000	Assist Step Switch Signal Right	I	—
2	0.5	BN/WH	9002	Low Reference	I	—

P3 Backup Alarm



Connector Part Information

Harness Type: Backup Alarm Jumper

OEM Connector: 15300027

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 280 Metri-Pack Series, Sealed (BK)

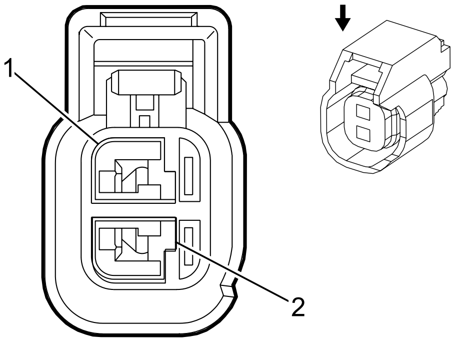
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

P3 Backup Alarm

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	L-GN	1624	Trailer Backup Lamp Control	I	—
B	1	WH	22	Trailer Ground	I	—

P12 Horn



Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13594801

Service Connector: 13585854

Description: 2-Way F 150 GT Series, Sealed (BK)

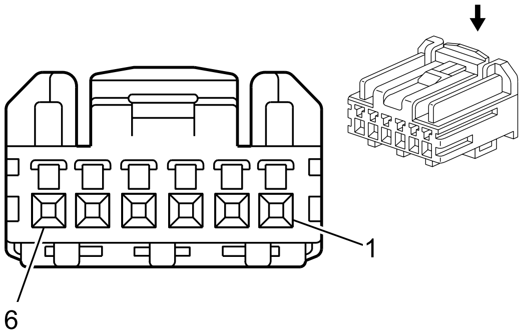
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

P12 Horn

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	150	Ground	I	—
2	0.75	BN/GY	29	Horn Control	I	—

P14 Passenger Air Bag Disabled Indicator



Connector Part Information

Harness Type: Overhead Console

OEM Connector: 13608102

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 HCM Series (NA)

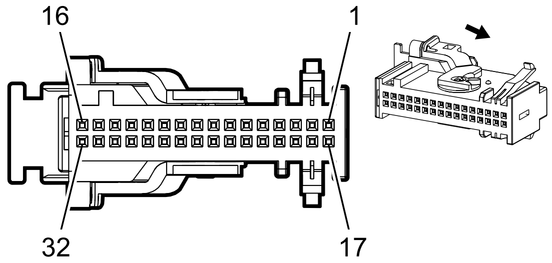
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

P14 Passenger Air Bag Disabled Indicator

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU	2307	Passenger Air Bag On Indicator Control	I	—
2	0.5	BK	1050	Ground	I	—
3	0.35	L-GN	2308	Passenger Air Bag Off Indicator Control	I	—
4	0.35	VT/WH	1139	Run/Crank Ignition 1 Voltage	I	—
5	0.35	VT/WH	5234	Passenger Seat Belt Indicator Control	I	—
6	—	—	—	Not Occupied	—	—

P16 Instrument Cluster



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 12198036

Service Connector: 88988405

Description: 32-Way F 0.64 Micro Quadlok Series (BK)

Terminal Part Information

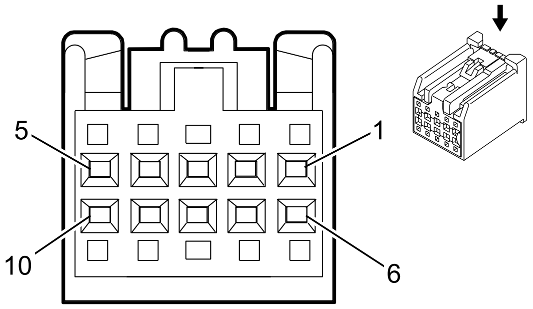
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575522	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

P16 Instrument Cluster

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/L-GN	3997	MOST Serial Data (-)	I	—
2	0.5	GY/VT	3998	MOST Serial Data (+)	I	—
3	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
4	—	—	—	Not Occupied	—	—
5	0.35	WH/VT	3999	MOST Control	I	—
6	—	—	—	Not Occupied	—	—
7	0.5	RD/GY	2840	Battery Positive Voltage	I	—
8	0.5	VT/BK	1639	Run/Crank Ignition 1 Voltage	I	—
9	—	—	—	Not Occupied	—	—

10	0.5	D-BU/YE	68	Low Coolant Level Indicator Control	I	—
11	—	—	—	Not Occupied	—	—
12	0.35	GY/YE	3885	Forward Collision Alert LED Control	I	—
13 - 15	—	—	—	Not Occupied	—	—
16	0.35	BN/WH	419	Check Engine Indicator Control	I	—
17	0.5	GY/VT	3998	MOST Serial Data (+)	I	—
18	0.5	WH/L-GN	3997	MOST Serial Data (-)	I	—
19	0.5	BK/WH	1851	Signal Ground	I	—
20	0.5	L-GN/BK	3894	Local Interconnect Network Serial data Bus 12	I	—
21 - 23	—	—	—	Not Occupied	—	—
24	0.35	VT	185	Low Washer Fluid Indicator Control	I	—
25	0.35	BK/D-BU	61	Outside Ambient Temperature Sensor Low Reference	I	—
26	—	—	—	Not Occupied	—	—
27	0.35	D-BU/GY	636	Outside Ambient Air Temperature Sensor Signal	I	—
28 - 29	—	—	—	Not Occupied	—	—
30	0.35	WH/L-GN	3535	Reflected LED Display Dimming Control	I	—
31	—	—	—	Not Occupied	—	—
32	0.35	L-GN/BN	507	Wait To Start Indicator Control	I	—

P17 Info Display Module X1



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13815336

Service Connector: 13577390

Description: 10-Way F 0.64 Kaizen Series (BK)

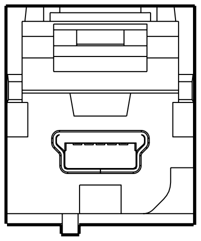
Terminal Part Information

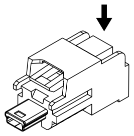
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	N/A	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

P17 Info Display Module X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/GY	2840	Battery Positive Voltage	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
4	—	—	—	Not Occupied	—	—
5	0.5	L-GN/D-BU	7532	Local Interconnect Network Serial Data Bus 10	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.5	L-GN/WH	7527	Local Interconnect Network Serial Data Bus 5	I	—
9	—	—	—	Not Occupied	—	—
10	0.35	BK	2550	Ground	I	—

P17 Info Display Module X2





Connector Part Information

Harness Type: Instrument Panel LVDS

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: LVDS Cable Connector (BK)

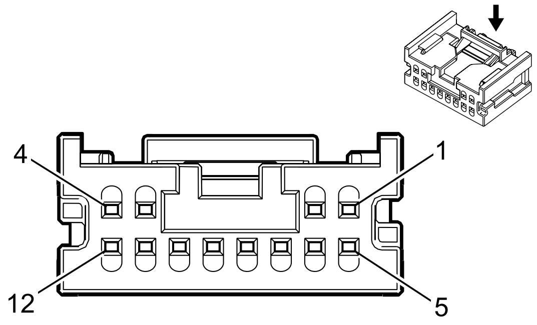
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

P17 Info Display Module X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	LVDS	—	Infotainment Display Signal	I	—

P17 Info Display Module X1 (IOB)



Connector Part Information

- Harness Type: Instrument Panel
- OEM Connector: 33133857
- Service Connector: Pending
- Description: 12-Way F Mini 50 Series (BK)

Terminal Part Information

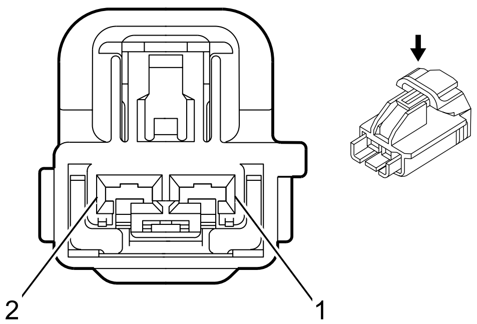
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Pending	Pending	Pending	—	—	—	—

P17 Info Display Module X1 (IOB)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN	9004	—	I	—
2	0.35	BN/L-GN	3364	Navigation Display Reset Signal	I	—
3	0.35	GY/BN	3761	Infotainment Regulated Control	I	—
4	0.35	L-GN/BK	2515	Keypad Control	I	—
5	0.35	VT/GY	1381	LCD Dimming Signal	I	—
6	0.35	GY/D-BU	3989	Display Radio Bank Switch Dim Signal	I	—
7	0.35	BN/L-GN	4502	Video Display Request Signal	I	—
8	0.35	GY/BN	9003	—	I	—

9	0.35	BK	2550	Ground	I	—
10	0.35	BK	2550	Ground	I	—
11	0.35	BK/BN	2518	Keypad Low Reference	I	—
12	0.35	GY/D-BU	3989	Display Radio Bank Switch Dim Signal	I	—

P19AC Speaker - Subwoofer



Connector Part Information

Harness Type: Body

OEM Connector: 10846819

Service Connector: 19301720

Description: 2-Way F Kaizen YESC Series (L-GY)

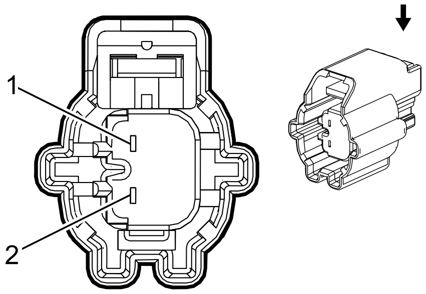
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

P19AC Speaker - Subwoofer

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	D-BU/GY	346	Left/Rear Subwoofer Speaker Control (+)	I	—
2	2.5	GY/BK	315	Right Subwoofer Speaker (-) Low Reference	I	—

P19AG Speaker - Left Front Door



Connector Part Information

Harness Type: Driver Door

OEM Connector: 13665501

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 150 GT Series (BK)

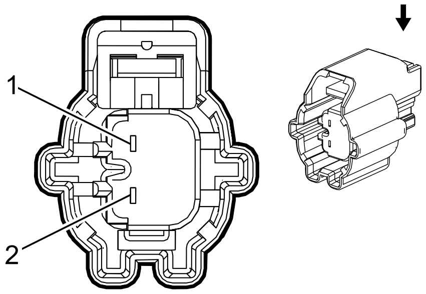
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

P19AG Speaker - Left Front Door

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	BN/D-BU	118	Left Front Speaker Signal (-) (1)	I	—
2	1	D-BU	201	Left Front Speaker Control (+) (1)	I	—

P19AH Speaker - Right Front Door



Connector Part Information

Harness Type: Passenger Door

OEM Connector: 13665501

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 150 GT Series (BK)

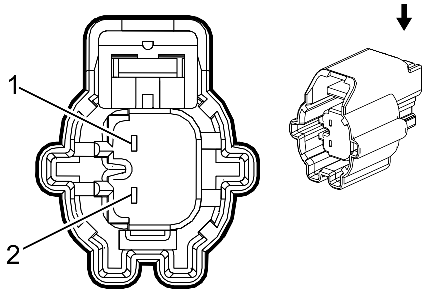
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

P19AH Speaker - Right Front Door

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	YE/BK	117	Right Front Speaker Signal (-) (1)	I	—
2	1	YE	200	Right Front Speaker Control (+) (1)	I	—

P19AL Speaker - Left Rear Door



Connector Part Information

Harness Type: Left Rear Door

OEM Connector: 13665501

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 150 GT Series (BK)

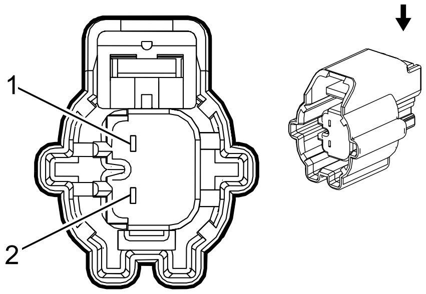
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

P19AL Speaker - Left Rear Door

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	L-GN/BK	116	Left Rear Speaker Signal (-)	I	—
2	1	L-GN	199	Left Rear Speaker Control (+)	I	—

P19AM Speaker - Right Rear Door



Connector Part Information

Harness Type: Right Rear Door

OEM Connector: 13665501

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 150 GT Series (BK)

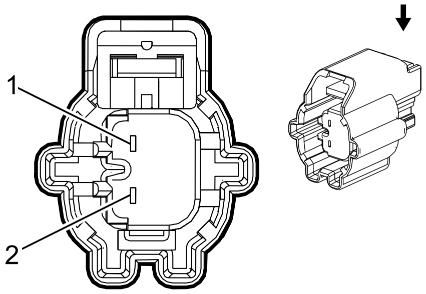
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

P19AM Speaker - Right Rear Door

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	D-BU/BK	115	Right Rear Speaker Signal (-)	I	—
2	1	WH	46	Right Rear Speaker Control (+)	I	—

P19AN Speaker - Left Rear Trim Panel



Connector Part Information

Harness Type: Body

OEM Connector: 13665501

Service Connector: 19301724

Description: 2-Way F 150 GT Series (BK)

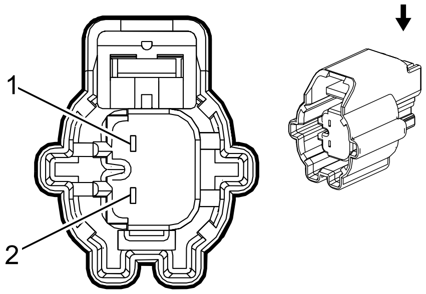
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

P19AN Speaker - Left Rear Trim Panel

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/BK	116	Left Rear Speaker Signal (-)	I	—
2	0.5	L-GN	199	Left Rear Speaker Control (+)	I	—

P19AP Speaker - Right Rear Trim Panel



Connector Part Information

Harness Type: Body

OEM Connector: 13665501

Service Connector: 19301724

Description: 2-Way F 150 GT Series (BK)

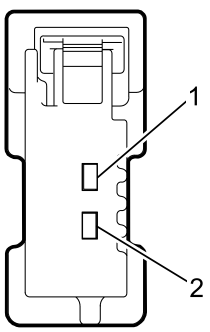
Terminal Part Information

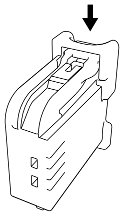
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

P19AP Speaker - Right Rear Trim Panel

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU/BK	115	Right Rear Speaker Signal (-)	I	—
2	0.5	WH	46	Right Rear Speaker Control (+)	I	—

P19J Speaker - Left Instrument Panel (except UQA)





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13595207

Service Connector: 13584097

Description: 2-Way F 1.5 Series (BK)

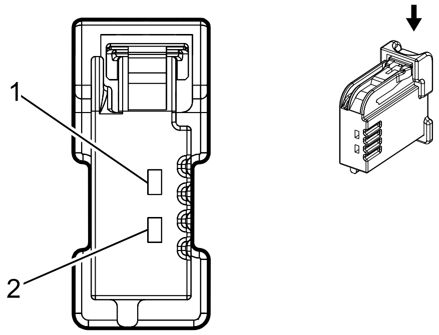
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

P19J Speaker - Left Instrument Panel (except UQA)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN/D-BU	118	Left Front Speaker Signal (-) (1)	I	—
2	0.5	D-BU	201	Left Front Speaker Control (+) (1)	I	—

P19J Speaker - Left Instrument Panel (UQA)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13608099

Service Connector: 19150056

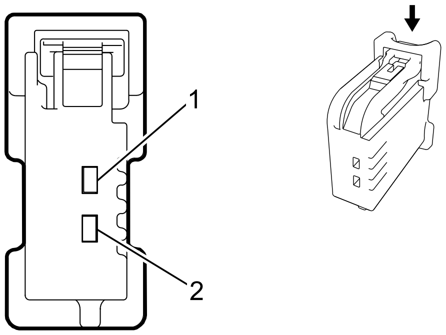
Description: 2-Way F 1.5 Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available

P19J Speaker - Left Instrument Panel (UQA)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE/GY	1956	Left Front Tweeter Speaker (-)	I	-
2	0.75	YE/D-BU	1856	Left Front Tweeter Speaker (+)	I	-



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13595207

Service Connector: 13584097

Description: 2-Way F 1.5 Series (BK)

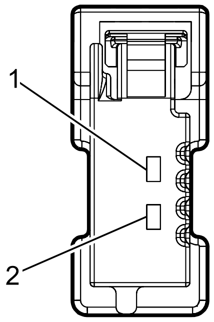
Terminal Part Information

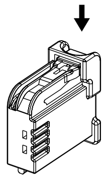
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

P19W Speaker - Right Instrument Panel

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BK	117	Right Front Speaker Signal (-) (1)	I	—
2	0.5	YE	200	Right Front Speaker Control (+) (1)	I	—

P19W Speaker - Right Instrument Panel (UQA)





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13608099

Service Connector: 19150056

Description: 2-Way F 1.5 Series (GY)

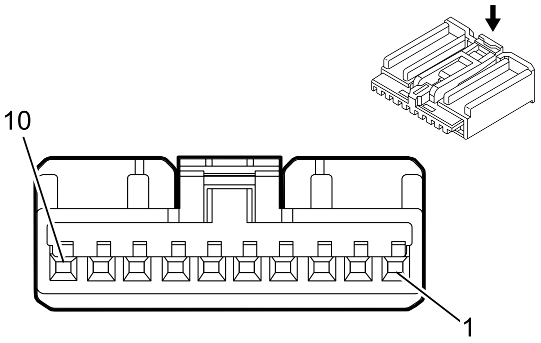
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available

P19W Speaker - Right Instrument Panel (UQA)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	VT/BN	1952	Right Front Tweeter Speaker (-)	I	-
2	0.75	BN/L-GN	1852	Right Front Tweeter Speaker (+)	I	-

P22A Video Display - 2nd Row X2 (U42)



Connector Part Information

Harness Type: Headliner

OEM Connector: 13574592

Service Connector: 13576634

Description: 10-Way F 0.64 Kaizen Series (BK)

Terminal Part Information

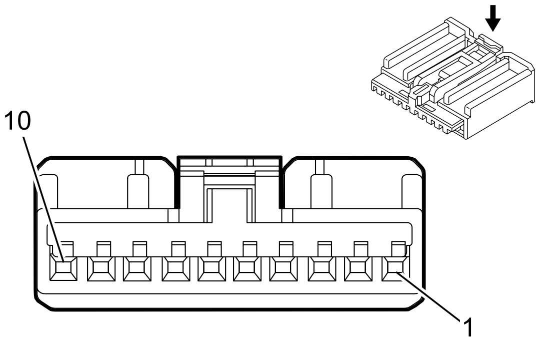
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

P22A Video Display - 2nd Row X2 (U42)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT/L-GN	7558	LED Ambient Lighting Control 2	I	—
2	0.5	BK	1050	Ground	I	—
3	0.5	GY	157	Interior Lamp Control	I	—
4	0.5	YE	6817	LED Backlight Dimming Control	I	—
5	0.5	WH/BN	6815	Inadvertent Power Control	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.5	BK/WH	2550	Ground	I	—
9	0.35	L-GN/YE	7066	Entertainment Remote Enable Signal	I	—

10	0.5	RD/L-GN	1540	Battery Positive Voltage	I	—

P22A Video Display - 2nd Row X1 (U42)



Connector Part Information

Harness Type: Headliner

OEM Connector: AIT2PB-10-1AK

Service Connector: 13576634

Description: 10-Way F 0.64 Kaizen Series (BK)

Terminal Part Information

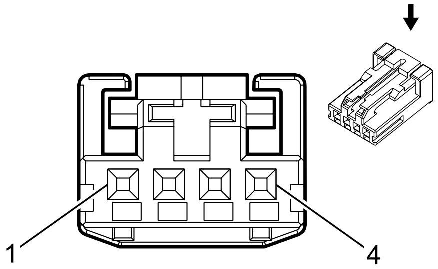
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	Not Required	Not Required	Not Required	Not Required

P22A Video Display - 2nd Row X1 (U42)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT	7558	LED Ambient Lighting Control 2	I	—
2	0.5	BK	1050	Ground	I	—
3	0.5	GY	157	Interior Lamp Control	I	—
4	0.5	YE	6817	LED Backlight Dimming Control	I	—
5	0.5	WH/BN	6815	Inadvertent Power Control	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.5	BK/WH	2550	Ground	I	—
9	0.35	—	7066	Entertainment Remote Enable Signal	I	—

10	0.5	RD	1540	Battery Positive Voltage	I	—

P43 Collision Alert Indicators



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13853727

Service Connector: 19300597

Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

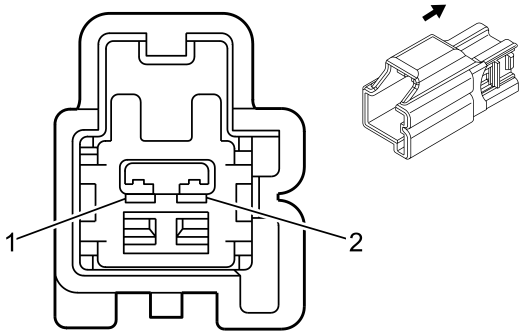
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

P43 Collision Alert Indicators

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/BK	1639	Run/Crank Ignition 1 Voltage	I	—
2	0.35	GY/YE	3885	Forward Collision Alert LED Control	I	—
3	0.35	WH/L-GN	3535	Reflected LED Display Dimming Control	I	—
4	0.35	BK/WH	1851	Signal Ground	I	—

P45LR Seat Haptic Movement Motor - Driver Left Rear



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7282-6443-40

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 1.5 Series (L-GY)

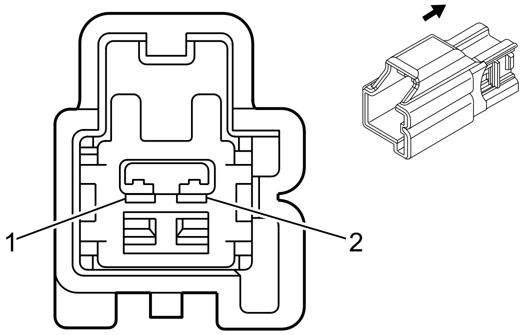
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

P45LR Seat Haptic Movement Motor - Driver Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BR	3037	Left Rear Haptic Seat Motor Control	I	—
2	0.5	BK	1150	Ground	I	—

P45RR Seat Haptic Movement Motor - Driver Right Rear



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7282-6443-40

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 1.5 Series (L-GY)

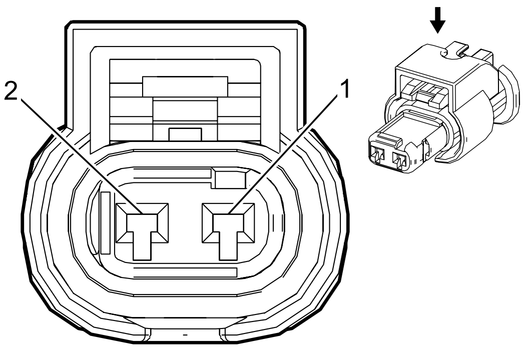
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

P45RR Seat Haptic Movement Motor - Driver Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BR	3038	Right Rear Haptic Seat Motor Control	I	—
2	0.5	BK	1150	Ground	I	—

Q2 A/C Compressor Clutch



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13927761

Service Connector: 19300402

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK with BK Inner Connector)

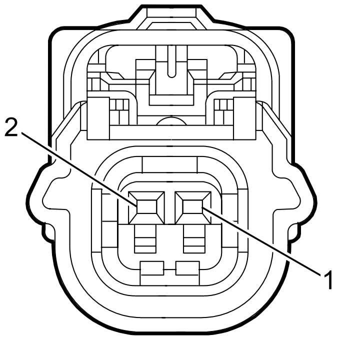
Terminal Part Information

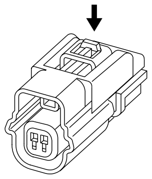
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q2 A/C Compressor Clutch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1	BK	550	Ground	I	—
2	0.75	BN/L-GN	59	A/C Compressor Clutch Control	I	—

Q6 Camshaft Position Actuator Solenoid Valve





Connector Part Information

Harness Type: Camshaft Position Sensor Jumper

OEM Connector: 13528494

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F Kaizen 64 Series, Sealed (BK)

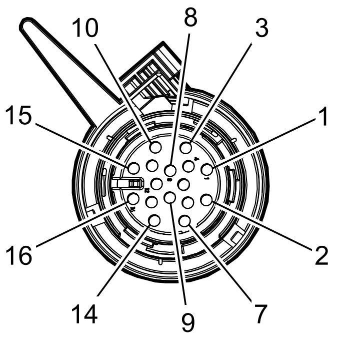
Terminal Part Information

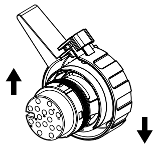
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

Q6 Camshaft Position Actuator Solenoid Valve

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK/BN	6753	Cam Phaser W Low Reference	I	—
2	0.5	VT/BN	5284	Camshaft Phaser Intake Solenoid (1)	I	—

Q8 Control Solenoid Valve Assembly X1 (MYC or MYD)





Connector Part Information

Harness Type: Engine

OEM Connector: 13878751

Service Connector: 19303772

Description: 16-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

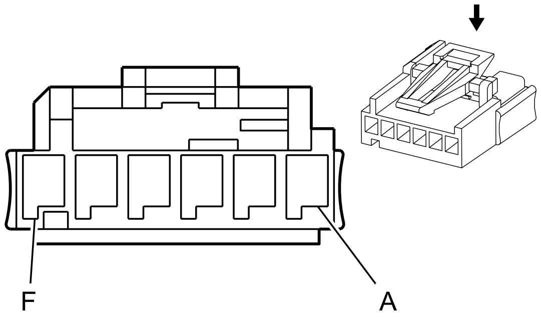
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578934	J-35616-66 (YE)	J-38125-28	2 21 24 47220 0	17	E	1

Q8 Control Solenoid Valve Assembly X1 (MYC or MYD)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	WH/GY	1786	Transmission Park/Neutral Signal (1)	I	—
4	0.75	RD/L-GN	1840	Battery Positive Voltage	I	—
5	0.75	BK/WH	451	Signal Ground	I	—
6 - 8	—	—	—	Not Occupied	—	—
9	0.5	VT/YE	5985	Accessory Wakeup Serial Data	I	—
10	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
11	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
12	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage	I	—

13	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
14	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
15	—	—	—	Not Occupied	—	—
16	0.5	BN/WH	6354	Output Speed High (Replicated TOS) Input Signal	I	—

Q8 Control Solenoid Valve Assembly X2 (MYC or MYD)



Connector Part Information

Harness Type: Transmission

OEM Connector: 15336500

Service Connector: 89046635

Description: 6-Way F Metri Pack 150.2 Series (GN)

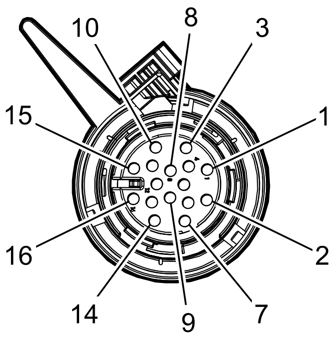
Terminal Part Information

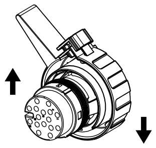
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Service by Harness – See Part Catalog	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Q8 Control Solenoid Valve Assembly X2 (MYC or MYD)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.35	GY	—	Ground	I	-
B	0.35	BK	—	Transmission Range Switch Signal P	I	-
C	0.35	YE	—	Transmission Range Switch Signal C	I	-
D	0.35	RD	—	Transmission Range Switch Signal B	I	-
E	0.35	GN	—	Transmission Range Switch Signal A	I	-
F	0.35	WH	—	Park/Neutral Switch Signal	I	-

Q8 Control Solenoid Valve Assembly X3 (MYC or MYD)





Connector Part Information

Harness Type: Engine

OEM Connector: 13878751

Service Connector: 19303772

Description: 16-Way F 1.5 Series, Sealed (BK)

Terminal Part Information

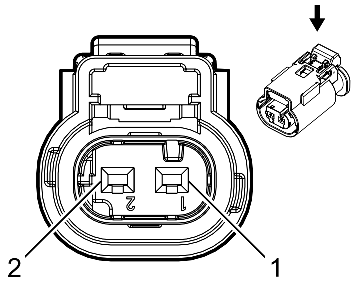
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13578934	J-35616-66 (YE)	J-38125-28	Not Required	Not Required	Not Required	Not Required

Q8 Control Solenoid Valve Assembly X3 (MYC or MYD)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	WH/GY	1786	Transmission Park/Neutral Signal (1)	I	—
4	0.75	RD/L-GN	1840	Battery Positive Voltage	I	—
5	0.75	BK/WH	451	Signal Ground	I	—
6 - 8	—	—	—	Not Occupied	—	—
9	0.5	VT/YE	5985	Accessory Wakeup Serial Data	I	—
10	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
11	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
12	0.5	VT/BK	2139	Run/Crank Ignition 1 Voltage	I	—

13	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—
14	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
15	—	—	—	Not Occupied	—	—
16	0.5	BN/WH	6354	Output Speed High (Replicated TOS) Input Signal	I	—

Q12 Evaporative Emission Purge Solenoid Valve (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13735326

Service Connector: 13587326

Description: 2-Way F 1.2 MLK Series, Sealed (BK)

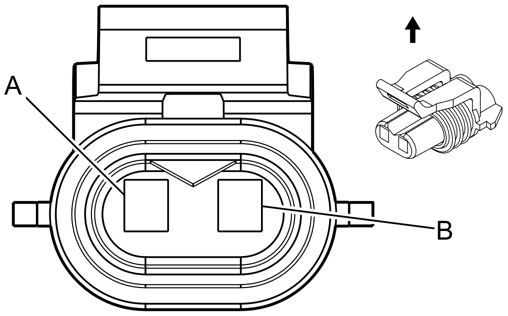
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q12 Evaporative Emission Purge Solenoid Valve (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
2	0.5	L-GN/D-BU	428	EVAP Canister Purge Solenoid Control	I	—

Q12 Evaporative Emission Purge Solenoid Valve (L96/LC8)



Connector Part Information

Harness Type: Engine
OEM Connector: 12124037
Service Connector: 13585860
Description: 2-Way F 150 Metri-Pack Series, Sealed (BK)

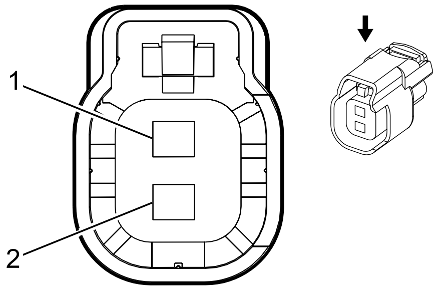
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q12 Evaporative Emission Purge Solenoid Valve (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
B	0.5	L-GN/D-BU	428	EVAP Canister Purge Solenoid Control	I	—

Q13 Evaporative Emission Vent Solenoid Valve



Connector Part Information

Harness Type: Chassis

OEM Connector: 13771883

Service Connector: 13579002

Description: 2-Way F 1.5 Series, Sealed (BK)

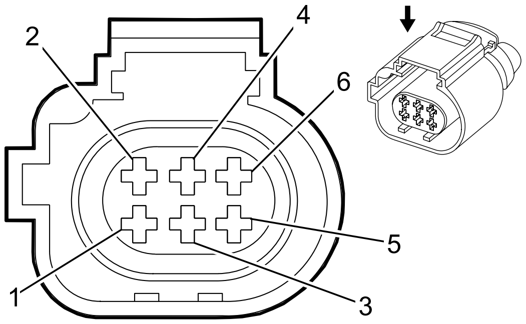
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

Q13 Evaporative Emission Vent Solenoid Valve

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	1310	EVAP Canister Vent Solenoid Control	I	—
2	0.5	RD/L-GN	1840	Battery Positive Voltage	I	—

Q14 Exhaust Gas Recirculation Valve



Connector Part Information

Harness Type: Engine

OEM Connector: 284716-3

Service Connector: 13586128

Description: 6-Way F 1.6 Micro Timer Series, Sealed (BN)

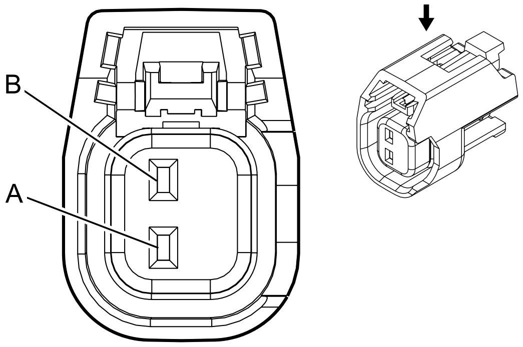
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q14 Exhaust Gas Recirculation Valve

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY	2702	Exhaust Gas Recirculation 5 Volt Reference (2)	I	LML
2	0.5	L-GN/BK	5746	Exhaust Gas Recirculation Valve Motor Low Signal	I	LML
3	0.5	—	2753	Exhaust Gas Recirculation Sensor Low Reference	I	LML
4	—	—	—	Not Occupied	—	—
5	0.5	BR/WH	5763	Exhaust Gas Recirculation Valve Sensor Signal	I	LML
6	0.5	OR/BK	5764	Exhaust Gas Recirculation Valve Motor High Signal	I	LML

Q17A Fuel Injector 1 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

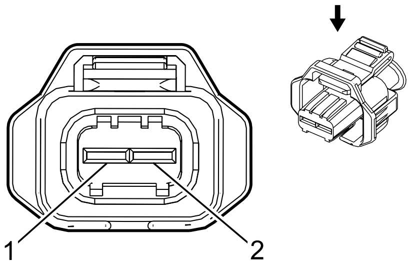
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17A Fuel Injector 1 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	I	—
B	0.5	L-GN/YE	1744	Fuel Injector Control (1)	I	—

Q17A Fuel Injector 1 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 1928404114

Service Connector: 13576410

Description: 2-Way F 2.8 Series, Sealed (BK)

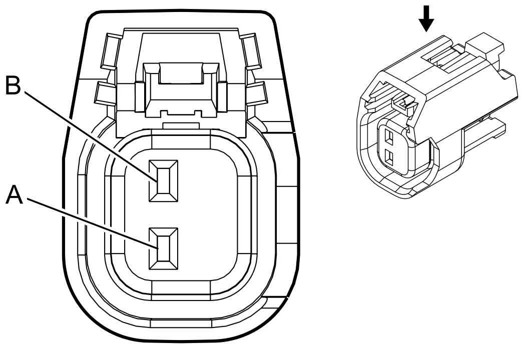
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17A Fuel Injector 1 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	BR/WH	4901	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 1	I	LML
2	0.8	BR	4801	Direct Fuel Injector (DFI) High Voltage Control Cylinder 1	I	LML

Q17B Fuel Injector 2 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

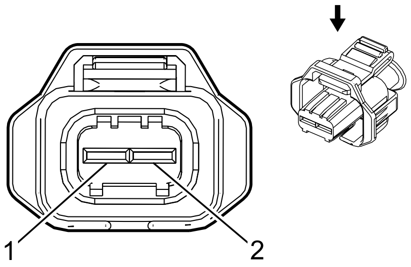
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17B Fuel Injector 2 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	I	—
B	0.5	YE/WH	1745	Fuel Injector Control (2)	I	—

Q17B Fuel Injector 2 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 1928404114

Service Connector: 13576411

Description: 2-Way F 2.8 Series, Sealed (BK)

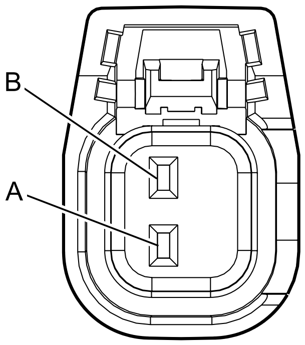
Terminal Part Information

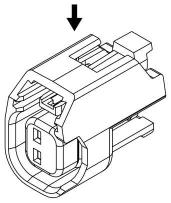
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17B Fuel Injector 2 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	D-BU/WH	4902	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 2	I	LML
2	0.8	D-BU	4802	Direct Fuel Injector (DFI) High Voltage Control Cylinder 2	I	LML

Q17C Fuel Injector 3 (L96/LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

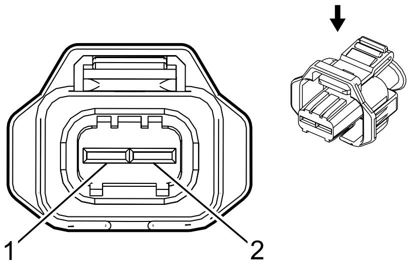
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17C Fuel Injector 3 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	I	—
B	0.5	BN/VT	1746	Fuel Injector Control (3)	I	—

Q17C Fuel Injector 3 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 1928404114

Service Connector: 13576410

Description: 2-Way F 2.8 Series, Sealed (BK)

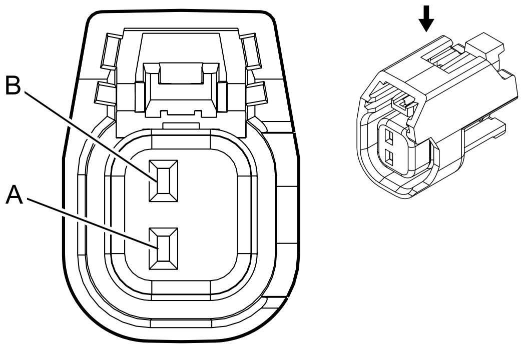
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17C Fuel Injector 3 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	D-GN/WH	4903	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 3	I	LML
2	0.8	D-GN	4803	Direct Fuel Injector (DFI) High Voltage Control Cylinder 3	I	LML

Q17D Fuel Injector 4 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

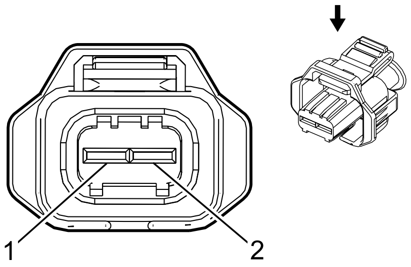
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17D Fuel Injector 4 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	I	—
B	0.5	BN/YE	844	Fuel Injector Control (4)	I	—

Q17D Fuel Injector 4 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 1928404114

Service Connector: 13576411

Description: 2-Way F 2.8 Series, Sealed (BK)

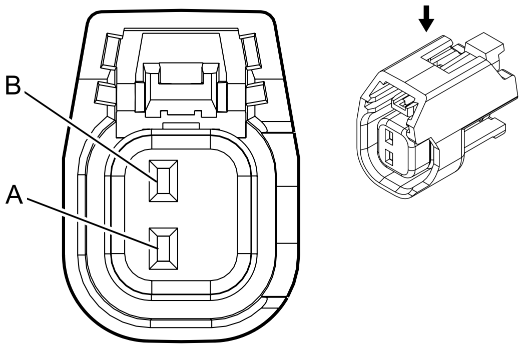
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17D Fuel Injector 4 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	L-BU/WH	4904	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 4	I	LML
2	0.8	L-BU	4804	Direct Fuel Injector (DFI) High Voltage Control Cylinder 4	I	LML

Q17E Fuel Injector 5 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

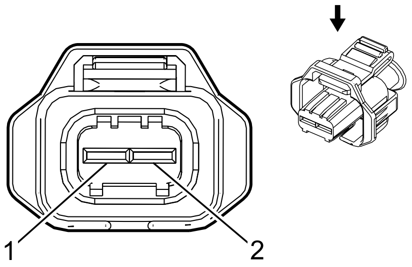
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17E Fuel Injector 5 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	I	—
B	0.5	BN/L-GN	845	Fuel Injector Control (5)	I	—

Q17E Fuel Injector 5 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 1928404114

Service Connector: 13576410

Description: 2-Way F 2.8 Series, Sealed (BK)

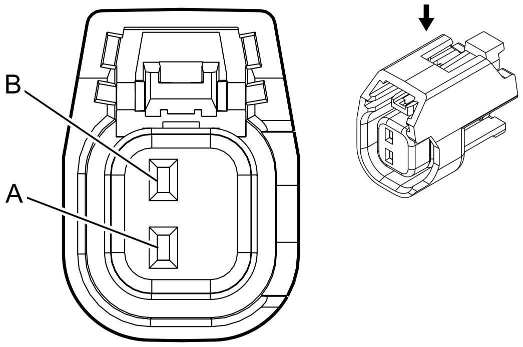
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17E Fuel Injector 5 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	L-GN/WH	4905	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 5	I	LML
2	0.8	L-GN	4805	Direct Fuel Injector (DFI) High Voltage Control Cylinder 5	I	LML

Q17F Fuel Injector 6 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

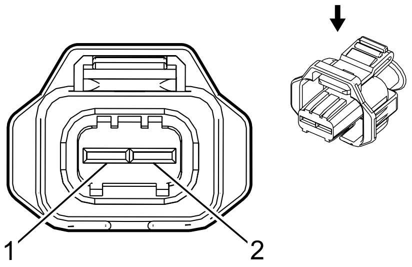
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17F Fuel Injector 6 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	I	—
B	0.5	BN/D-BU	846	Fuel Injector Control (6)	I	—

Q17F Fuel Injector 6 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 1928404114

Service Connector: 13576411

Description: 2-Way F 2.8 Series, Sealed (BK)

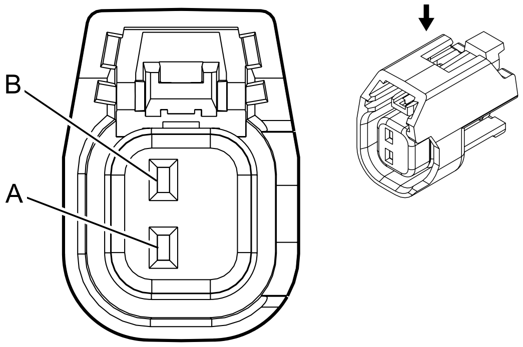
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17F Fuel Injector 6 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	VT/WH	4906	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 6	I	LML
2	0.8	VT	4806	Direct Fuel Injector (DFI) High Voltage Control Cylinder 6	I	LML

Q17G Fuel Injector 7 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

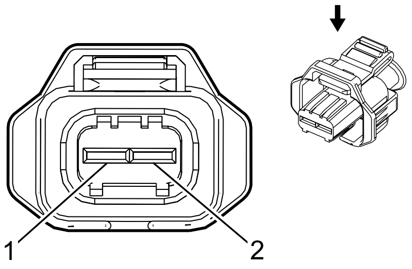
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17G Fuel Injector 7 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	I	—
B	0.5	BN/VT	877	Fuel Injector Control (7)	I	—

Q17G Fuel Injector 7 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 1928404114

Service Connector: 13576410

Description: 2-Way F 2.8 Series, Sealed (BK)

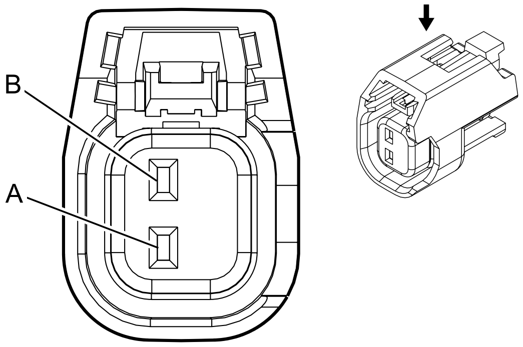
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17G Fuel Injector 7 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	—	4907	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 7	I	LML
2	0.8	—	4807	Direct Fuel Injector (DFI) High Voltage Control Cylinder 7	I	LML

Q17H Fuel Injector 8 (L96/LC8)



Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

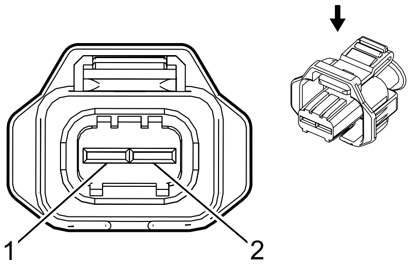
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17H Fuel Injector 8 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	I	—
B	0.5	BN/GY	878	Fuel Injector Control (8)	I	—

Q17H Fuel Injector 8 (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 1928404114

Service Connector: 13576411

Description: 2-Way F 2.8 Series, Sealed (BK)

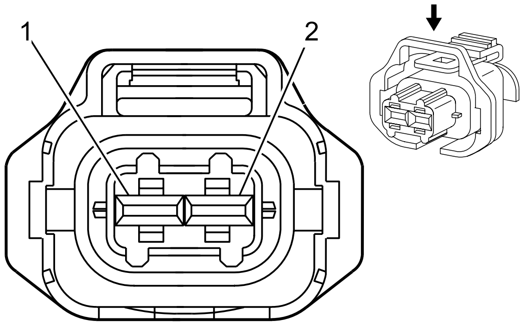
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q17H Fuel Injector 8 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	GY/WH	4908	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 8	I	LML
2	0.8	GY	4808	Direct Fuel Injector (DFI) High Voltage Control Cylinder 8	I	LML

Q18A Fuel Pressure Regulator 1



Connector Part Information

Harness Type: Engine Jumper

OEM Connector: 1928403874

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F Kompakt 2.8 Series, Sealed (BK)

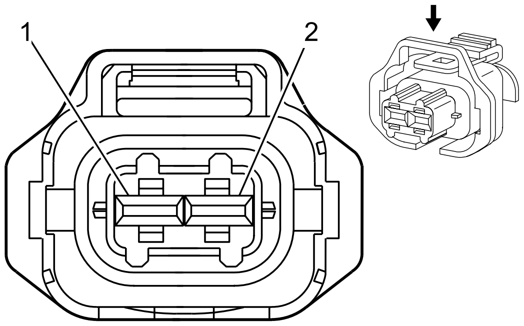
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q18A Fuel Pressure Regulator 1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	2928	Fuel Metering Valve High Control	I	LML
2	0.5	BK	2929	Fuel Metering Valve Low Control	I	LML

Q18B Fuel Pressure Regulator 2 (LML)



Connector Part Information

Harness Type: Engine Jumper

OEM Connector: 1928403874

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F Kompakt 2.8 Series, Sealed (BK)

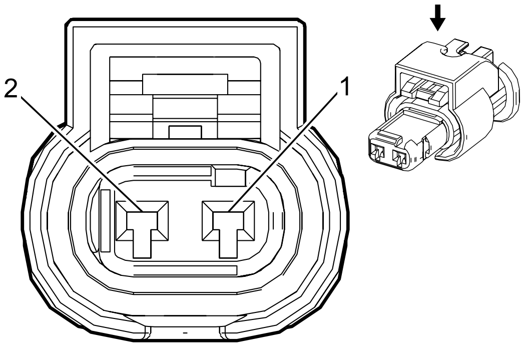
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

Q18B Fuel Pressure Regulator 2 (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	VT/WH	2530	Fuel Rail Pressure Solenoid Control	I	LML
2	0.8	YE	2834	Fuel Rail Pressure Solenoid Low Reference	I	LML

Q37LF Shock Absorber Actuator - Left Front



Connector Part Information

Harness Type: Chassis

OEM Connector: 13927761

Service Connector: 19300402

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK with BK Inner Connector)

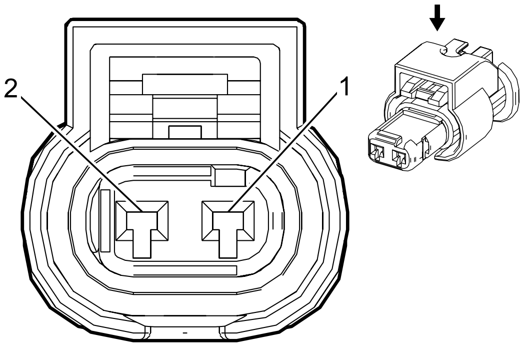
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

Q37LF Shock Absorber Actuator - Left Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/GY	1448	Left Front Strut Motor Increase Damping Control	I	—
2	0.75	WH/L-GN	1005	Left Front Strut Motor Decrease Damping Control	I	—

Q37LR Shock Absorber Actuator - Left Rear



Connector Part Information

Harness Type: Chassis

OEM Connector: 13927761

Service Connector: 19300402

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK with BK Inner Connector)

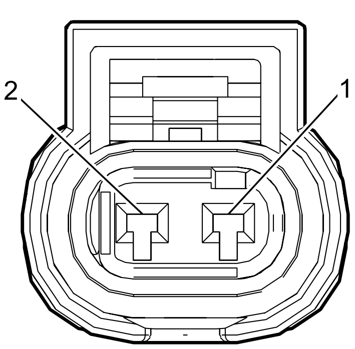
Terminal Part Information

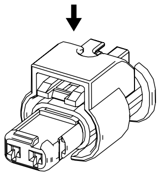
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

Q37LR Shock Absorber Actuator - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN/VT	1010	Left Rear Strut Motor Increase Damping Control	I	—
2	0.75	WH/BK	1013	Left Rear Strut Motor Decrease Damping Control	I	—

Q37RF Shock Absorber Actuator - Right Front





Connector Part Information

Harness Type: Chassis

OEM Connector: 13927761

Service Connector: 19300402

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK with BK Inner Connector)

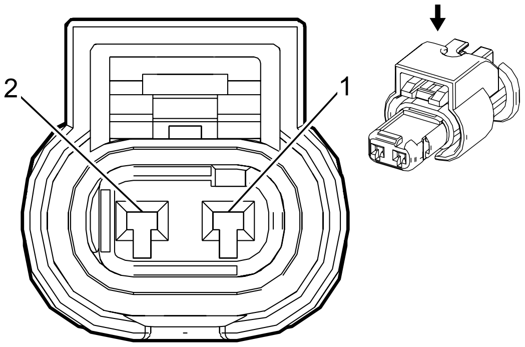
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

Q37RF Shock Absorber Actuator - Right Front

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH/BK	1006	Right Front Strut Motor Increase Damping Control	I	—
2	0.75	BN	1009	Right Front Strut Motor Decrease Damping Control	I	—

Q37RR Shock Absorber Actuator - Right Rear



Connector Part Information

Harness Type: Chassis

OEM Connector: 13927761

Service Connector: 19300402

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK with BK Inner Connector)

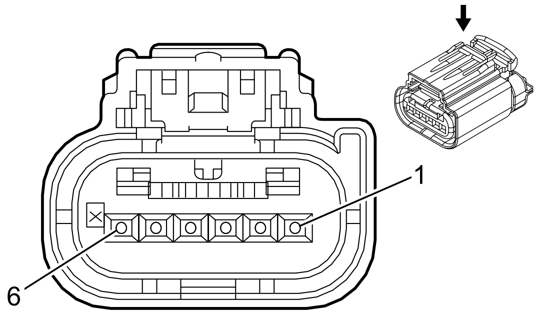
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

Q37RR Shock Absorber Actuator - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE	1014	Right Rear Strut Motor Increase Damping Control	I	—
2	0.75	VT	1017	Right Rear Strut Motor Decrease Damping Control	I	—

Q38 Throttle Body (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13699991

Service Connector: 13581267

Description: 6-Way F 0.64 GET Series, Sealed (BK)

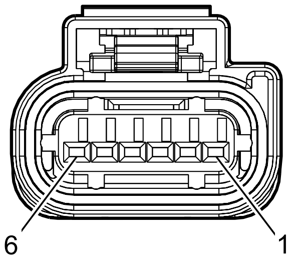
Terminal Part Information

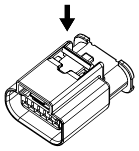
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

Q38 Throttle Body (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	581	Throttle Actuator Control Open	I	—
2	0.5	BN/WH	582	Throttle Actuator Control Close	I	—
3	0.5	D-BU/WH	3630	Throttle Position Sensor (SENT1) Signal	I	—
4	0.5	BK/BN	2752	Throttle Position Sensor Low Reference	I	—
5	0.5	BN/RD	2701	Throttle Position Sensor 5 Volt Reference	I	—
6	—	—	—	Not Occupied	—	—

Q38 Throttle Body (L96/LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 13944349

Service Connector: 19329736

Description: 6-Way F 1.2 Series, Sealed (BK)

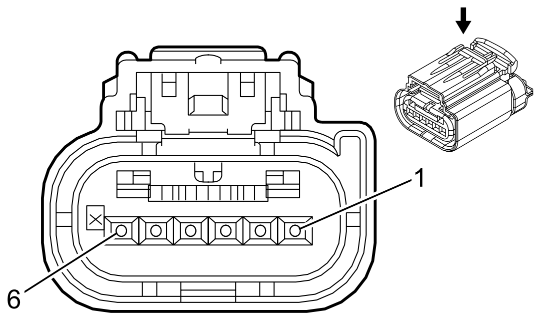
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q38 Throttle Body (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE	581	Throttle Actuator Control Open	I	—
2	0.5	BN/WH	582	Throttle Actuator Control Close	I	—
3	0.5	D-BU/WH	3630	Throttle Position Sensor (SENT1) Signal	I	—
4	0.5	BK/BN	2752	Throttle Position Sensor Low Reference	I	—
5	0.5	BN/YE	2701	Throttle Position Sensor 5 Volt Reference	I	—
6	—	—	—	Not Occupied	—	—

Q38 Throttle Body (LML)



Connector Part Information

Harness Type: Engine

OEM Connector: 1-1438153-3

Service Connector: 13581267

Description: 6-Way F 0.64 GET Series, Sealed (BK)

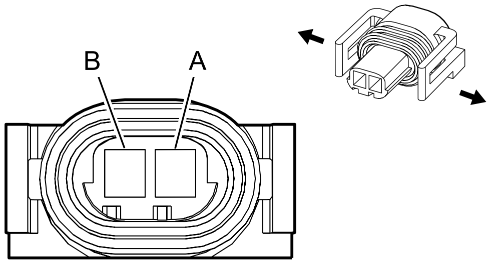
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

Q38 Throttle Body (LML)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.8	YE	581	Throttle Actuator Control Open	I	LML
2	0.8	BR	582	Throttle Actuator Control Close	I	LML
3	0.5	D-GN	485	Throttle Position Sensor Signal (1)	I	LML
4	0.5	—	2752	Throttle Position Sensor Low Reference	I	LML
5	0.5	GY	2701	Throttle Position Sensor 5 Volt Reference	I	LML
6	—	—	—	Not Occupied	—	—

Q41 Turbocharger Vane Position Control Solenoid Valve



Connector Part Information

Harness Type: Engine

OEM Connector: 12162215

Service Connector: 12085496

Description: 2-Way F 150.2 Metri-Pack Series, Sealed, Pull To Seat (BK)

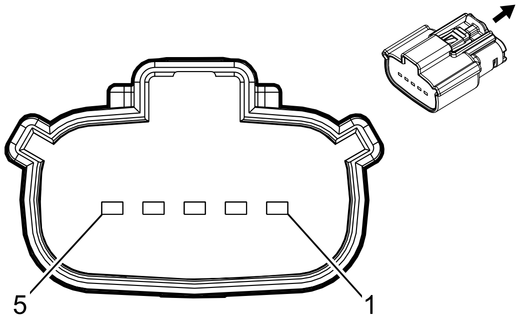
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

Q41 Turbocharger Vane Position Control Solenoid Valve

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	BU	5930	Variable Nozzle Turbo Solenoid High Signal	I	LML
B	0.5	WH	5931	Variable Nozzle Turbo Solenoid Low Signal	I	LML

Q43 Valve Lifter Oil Manifold Assembly



Connector Part Information

Harness Type: Engine

OEM Connector: 13843947

Service Connector: 19301721

Description: 5-Way F 150 MX Series, Sealed (BK)

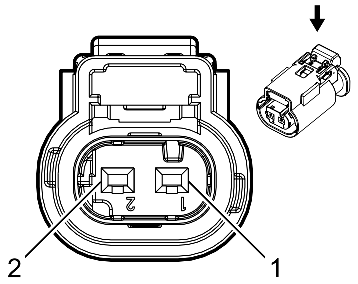
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

Q43 Valve Lifter Oil Manifold Assembly

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	D-BU	5491	Cylinder Shutoff Solenoid Control (1)	I	—
	0.5	YE/D-BU	5494	Cylinder Shutoff Solenoid Control (4)		—
2	0.5	GY	5493	Cylinder Shutoff Solenoid Control (3)	I	—
3	0.5	D-BU	5491	Cylinder Shutoff Solenoid Control (1)	I	—
	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)		—
4	0.75	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
5	0.5	L-GN	5492	Cylinder Shutoff Solenoid Control (2)	I	—

Q44 Engine Oil Pressure Control Solenoid Valve



Connector Part Information

Harness Type: Camshaft Position Sensor Jumper

OEM Connector: 13735326

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.2 MLK Series, Sealed (BK)

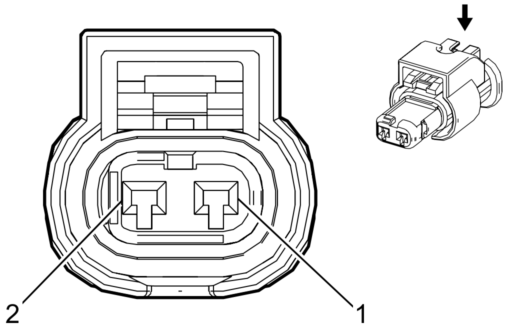
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q44 Engine Oil Pressure Control Solenoid Valve

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/D-BU	5293	Powertrain Main Relay Fused Supply (4)	I	—
2	0.5	D-BU	179	Oil Pump Command Signal	I	—

Q46 A/C Compressor Solenoid Valve



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13927762

Service Connector: 19299928

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (BK with NA Inner Connector)

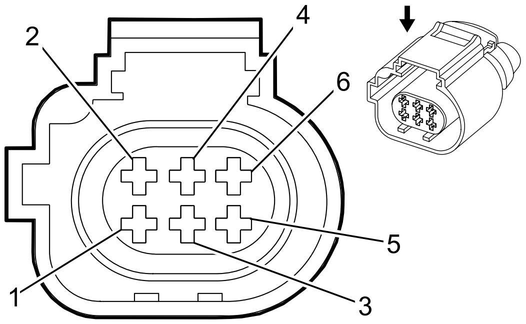
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q46 A/C Compressor Solenoid Valve

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	D-BU/YE	7574	Electric Variable Displacement Control	I	—
2	0.75	D-BU/BN	7573	Electric Variable Displacement Supply	I	—

Q47 Exhaust Gas Recirculation Cooler Bypass Solenoid Valve



Connector Part Information

Harness Type: Engine

OEM Connector: 284716-3

Service Connector: 13586128

Description: 6-Way F 1.6 Micro Timer Series, Sealed (BN)

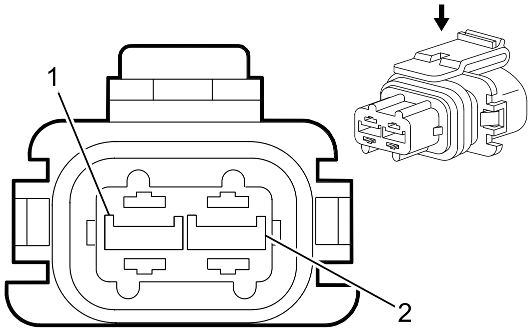
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

Q47 Exhaust Gas Recirculation Cooler Bypass Solenoid Valve

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY	3652	EGR Cooler Bypass Position Sensor 5 Volt Reference	I	LML
2	0.5	OR/BK	3656	EGR Cooler Bypass Motor Close Control	I	LML
3	0.5	—	3653	EGR Cooler Bypass Position Sensor Low Reference	I	LML
4	—	—	—	Not Occupied	—	—
5	0.5	GN/WH	3654	EGR Cooler Bypass Position Sensor Signal	I	LML
6	0.5	L-GN	3655	EGR Cooler Bypass Motor Open Control	I	LML

Q61 Reductant Injector



Connector Part Information

Harness Type: Engine

OEM Connector: 10740370

Service Connector: 88988586

Description: 2-Way F 2.8 Junior Power Timer Series, Sealed (BK)

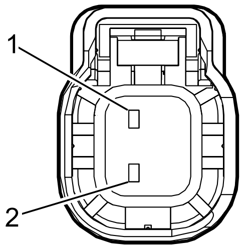
Terminal Part Information

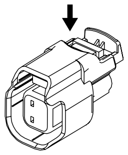
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	N/A	J-35616-35 (VT)	No Tool Required	1928498058	17	E	1

Q61 Reductant Injector

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BN	3099	DEF Dosing Valve High Control	I	—
2	0.75	BN/WH	3100	DEF Dosing Valve Low Control	I	—

Q67 Exhaust Aftertreatment Fuel Injector





Connector Part Information

Harness Type: Engine

OEM Connector: 34062-0025

Service Connector: 13580230

Description: 2-Way F 1.5 Series, Sealed (BK)

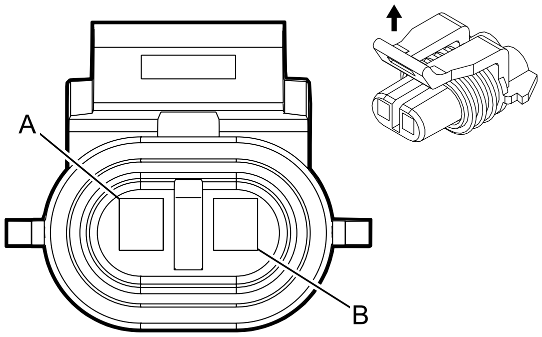
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

Q67 Exhaust Aftertreatment Fuel Injector

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT	2927	Hydrocarbon Injector Low Control	I	LML
2	0.5	BU	2926	Hydrocarbon Injector High Control	I	LML

Q68A CNG Cut-Off Solenoid Valve 1 (LC8)



Connector Part Information

Harness Type: CNG

OEM Connector: 12052641

Service Connector: 13586114

Description: 2-Way F 150 Metri-Pack Series (BK)

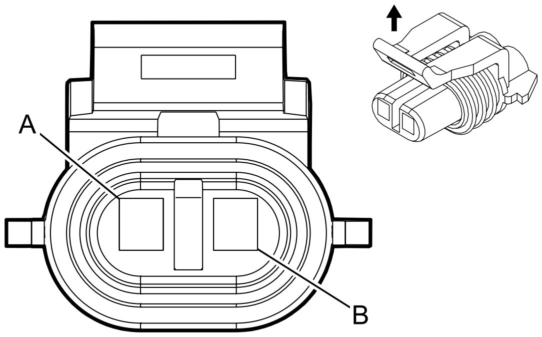
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-14 (GN)	J-38125-12A	12048074	2	E	1

Q68A CNG Cut-Off Solenoid Valve 1 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	GN/BK	—	Battery Positive	I	—
B	0.8	GN	—	CNG Cut-Off Solenoid Valve #2 Control	I	—

Q68B CNG Cut-Off Solenoid Valve 2 (LC8)



Connector Part Information

Harness Type: CNG

OEM Connector: 12052641

Service Connector: 13586114

Description: 2-Way F 150 Metri-Pack Series (BK)

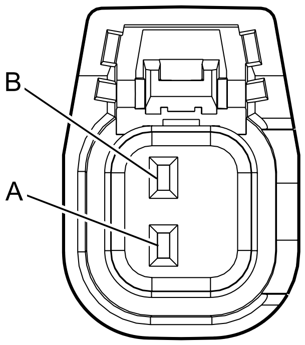
Terminal Part Information

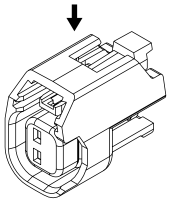
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-14 (GN)	J-38125-12A	12048074	2	E	1

Q68B CNG Cut-Off Solenoid Valve 2 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	GN/BK	—	Battery Positive	I	—
B	0.8	GY	—	CNG Cut-Off Solenoid Valve #2 Control	I	—

Q70A Alternative Fuel Injector 1 (LC8)





Connector Part Information

Harness Type: Injector

OEM Connector: 15497399

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (BK)

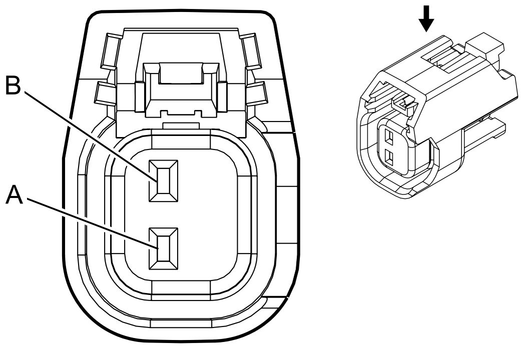
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	2	1

Q70A Alternative Fuel Injector 1 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	GN	-	Ignition Voltage	I	-
B	1	WH/BK	-	Alternative Fuel Injector 1 Control	I	-

Q70B Alternative Fuel Injector 2 (LC8)



Connector Part Information

Harness Type: Injector

OEM Connector: 15497399

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (BK)

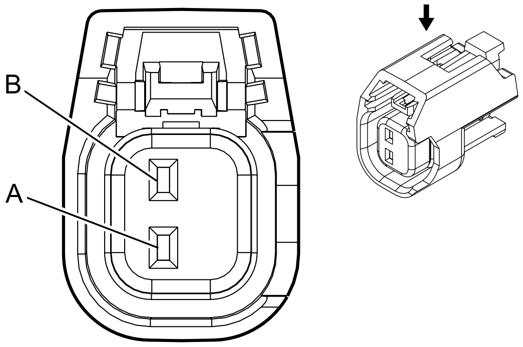
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	2	1

Q70B Alternative Fuel Injector 2 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	GN	-	Ignition Voltage	I	-
B	1	WH/BN	-	Alternative Fuel Injector 1 Control	I	-

Q70C Alternative Fuel Injector 3 (LC8)



Connector Part Information

Harness Type: Injector

OEM Connector: 15497399

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (BK)

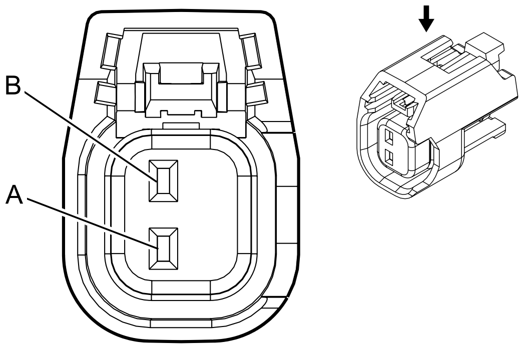
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	2	1

Q70C Alternative Fuel Injector 3 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	GN	-	Ignition Voltage	I	-
B	1	WH/RD	-	Alternative Fuel Injector 1 Control	I	-

Q70D Alternative Fuel Injector 4 (LC8)



Connector Part Information

Harness Type: Injector

OEM Connector: 15497399

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (BK)

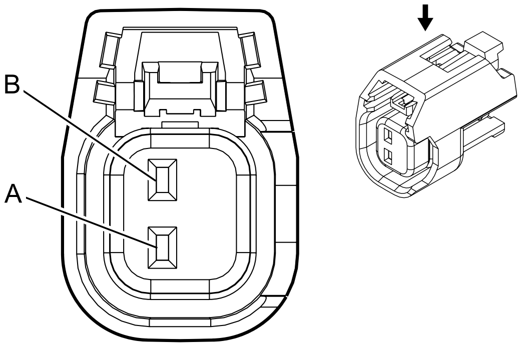
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	2	1

Q70D Alternative Fuel Injector 4 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	GN	-	Ignition Voltage	I	-
B	1	WH/OG	-	Alternative Fuel Injector 1 Control	I	-

Q70E Alternative Fuel Injector 5 (LC8)



Connector Part Information

Harness Type: Injector

OEM Connector: 15497399

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (BK)

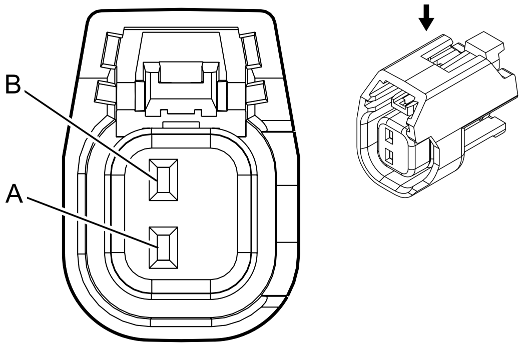
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	2	1

Q70E Alternative Fuel Injector 5 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	GN	-	Ignition Voltage	I	-
B	1	WH/YE	-	Alternative Fuel Injector 1 Control	I	-

Q70F Alternative Fuel Injector 6 (LC8)



Connector Part Information

Harness Type: Injector

OEM Connector: 15497399

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (BK)

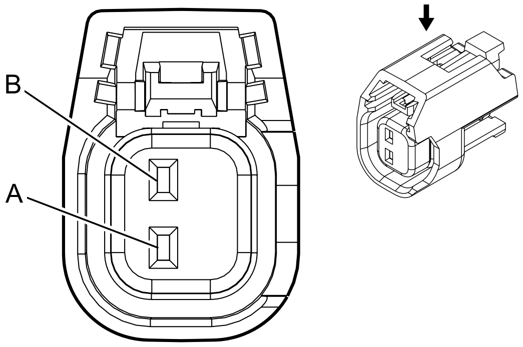
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	2	1

Q70F Alternative Fuel Injector 6 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	GN	-	Ignition Voltage	I	-
B	1	WH/GN	-	Alternative Fuel Injector 1 Control	I	-

Q70G Alternative Fuel Injector 7 (LC8)



Connector Part Information

Harness Type: Injector

OEM Connector: 15497399

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (BK)

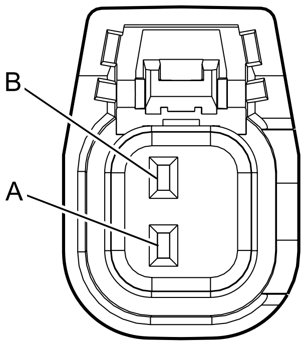
Terminal Part Information

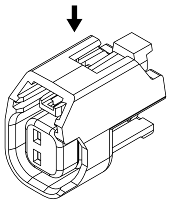
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	2	1

Q70G Alternative Fuel Injector 7 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	GN	-	Ignition Voltage	I	-
B	1	WH/BU	-	Alternative Fuel Injector 1 Control	I	-

Q70H Alternative Fuel Injector 8 (LC8)





Connector Part Information

Harness Type: Injector

OEM Connector: 15497399

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (BK)

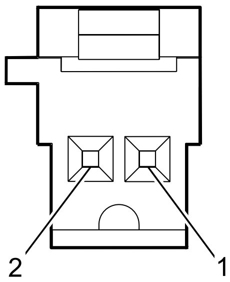
Terminal Part Information

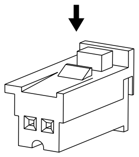
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	2	1

Q70H Alternative Fuel Injector 8 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	GN	-	Ignition Voltage	I	-
B	1	WH/PU	-	Alternative Fuel Injector 1 Control	I	-

Q77A Transmission Control Solenoid Valve 1 (M5U)





Connector Part Information

Harness Type: Transmission Control

OEM Connector: 13956948

Service Connector: Service by Harness — See Part Catalog

Description: 2–Way F 0.64 MTS Series (VT)

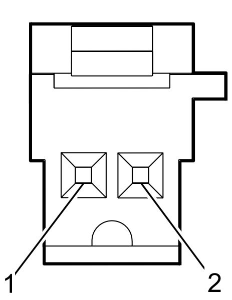
Terminal Part Information

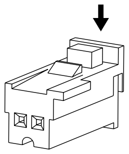
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

Q77A Transmission Control Solenoid Valve 1 (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BN	6400	Clutch A Control	I	-
2	0.5	GY/BN	6388	Transmission High Side Driver 2 Signal	I	-

Q77B Transmission Control Solenoid Valve 2 (M5U)





Connector Part Information

Harness Type: Transmission Control

OEM Connector: 13941672

Service Connector: Service by Harness — See Part Catalog

Description: 2–Way F 0.64 MTS Series (GY)

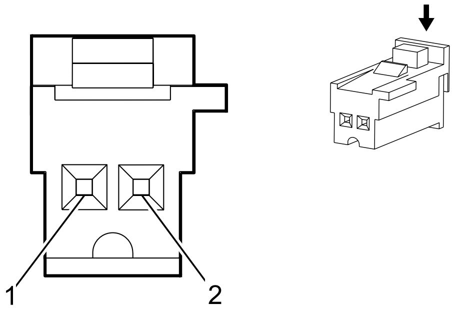
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

Q77B Transmission Control Solenoid Valve 2 (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BU	6401	Clutch B Control	I	-
2	0.5	GY/BN	6388	Transmission High Side Driver 2 Signal	I	-

Q77C Transmission Control Solenoid Valve 3 (M5U)



Connector Part Information

Harness Type: Transmission Control

OEM Connector: 13941672

Service Connector: Service by Harness — See Part Catalog

Description: 2–Way F 0.64 MTS Series (GY)

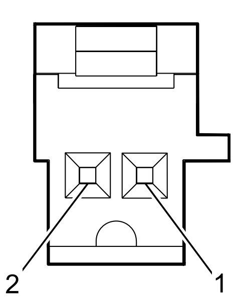
Terminal Part Information

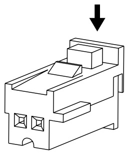
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

Q77C Transmission Control Solenoid Valve 3 (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY	6402	Clutch C Control	I	-
2	0.5	GY/BN	6388	Transmission High Side Driver 2 Signal	I	-

Q77D Transmission Control Solenoid Valve 4 (M5U)





Connector Part Information

Harness Type: Transmission Control

OEM Connector: 13947283

Service Connector: Service by Harness — See Part Catalog

Description: 2–Way F 0.64 MTS Series (NA)

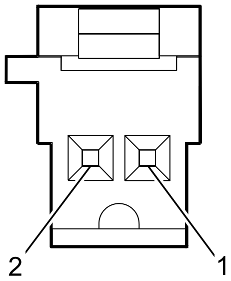
Terminal Part Information

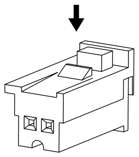
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

Q77D Transmission Control Solenoid Valve 4 (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	4508	Transmission Clutch G Control	I	-
2	0.5	GN/GY	6387	Transmission High Side Driver 1 Signal Driver	I	-

Q77E Transmission Control Solenoid Valve 5 (M5U)





Connector Part Information

Harness Type: Transmission Control

OEM Connector: 13956948

Service Connector: Service by Harness — See Part Catalog

Description: 2–Way F 0.64 MTS Series (VT)

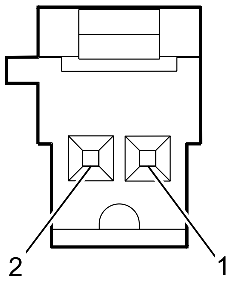
Terminal Part Information

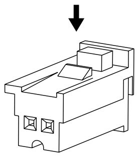
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

Q77E Transmission Control Solenoid Valve 5 (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/BU	4507	Transmission Clutch H Control	I	-
2	0.5	GN/GY	6387	Transmission High Side Driver 1 Signal Driver	I	-

Q77F Transmission Control Solenoid Valve 6 (M5U)





Connector Part Information

Harness Type: Transmission Control

OEM Connector: 13956948

Service Connector: Service by Harness — See Part Catalog

Description: 2–Way F 0.64 MTS Series (VT)

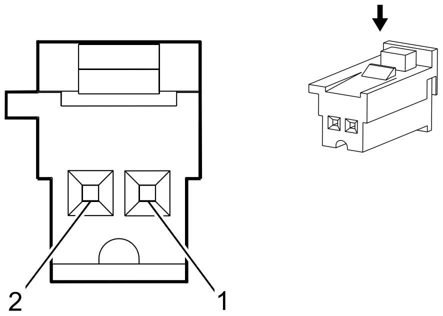
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

Q77F Transmission Control Solenoid Valve 6 (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/GN	6403	Clutch D Control	I	-
2	0.5	GY/BN	6388	Transmission High Side Driver 2 Signal	I	-

Q77G Transmission Control Solenoid Valve 7 (M5U)



Connector Part Information

Harness Type: Transmission Control

OEM Connector: 13941672

Service Connector: Service by Harness — See Part Catalog

Description: 2–Way F 0.64 MTS Series (GY)

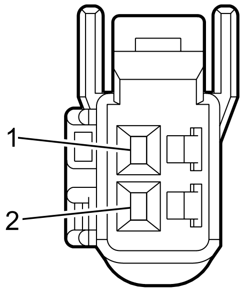
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

Q77G Transmission Control Solenoid Valve 7 (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	YE/BN	6404	Clutch E Control	I	-
2	0.5	GY/BN	6388	Transmission High Side Driver 2 Signal	I	-

Q77H Transmission Control Solenoid Valve 8 (M5U)



Connector Part Information

Harness Type: Transmission Control

OEM Connector: 7287–0122

Service Connector: Service by Harness — See Part Catalog

Description: 2–Way F040 III Series (NA)

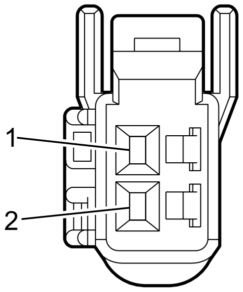
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-16 (L-GN)	J-38125-553	Not Available	Not Available	Not Available	Not Available

Q77H Transmission Control Solenoid Valve 8 (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GN/GY	6387	Transmission High Side Driver 1 Signal Driver	I	-
2	0.5	GN/WH	6380	TCC On/Off Solenoid A Control	I	-

Q77J Transmission Control Solenoid Valve 9 (M5U)



Connector Part Information

Harness Type: Transmission Control

OEM Connector: 7287–0122

Service Connector: Service by Harness — See Part Catalog

Description: 2–Way F040 III Series (NA)

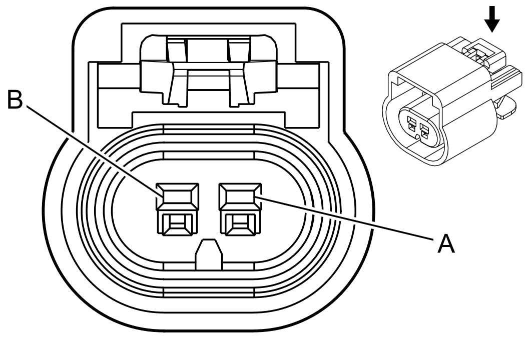
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-16 (L-GN)	J-38125-553	Not Available	Not Available	Not Available	Not Available

Q77J Transmission Control Solenoid Valve 9 (M5U)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	GY/BN	6388	Transmission High Side Driver 2 Signal	I	-
2	0.5	YE/BN	6210	TCC On/Off Solenoid B Control	I	-

R6A Terminating Resistor - High Speed Bus (except LC8)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13510085

Service Connector: 13580114

Description: 2-Way F 150 GT Series, Sealed (BK)

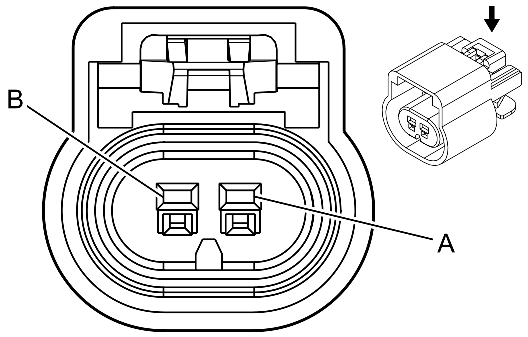
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

R6A Terminating Resistor - High Speed Bus (except LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	I	—
B	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	I	—

R6A Terminating Resistor - High Speed Bus (LC8)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13510085

Service Connector: 19153731

Description: 2-Way F 150 GT Series, Sealed (BK)

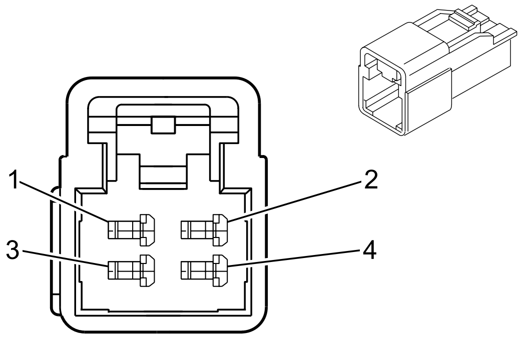
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	J-38125-553	12191819	8	E	1

R6A Terminating Resistor - High Speed Bus (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	TN/BK	—	High Speed GMLAN Serial Data (+) (1)	I	—
B	0.5	TN	—	High Speed GMLAN Serial Data (-) (1)	I	—

S3 Transmission Shift Lever (M5U, MW7, MYC or MYD)



Connector Part Information

Harness Type: Steering Column

OEM Connector: HCMDWSB-04-K

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F HCM Series (BK)

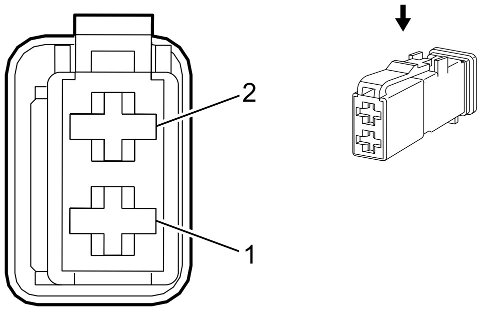
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

S3 Transmission Shift Lever (M5U, MW7, MYC or MYD)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BU/GY	553	Shift Select Switch Performance Signal	I	-
2	0.5	BK/WH	1851	Signal Ground	I	-
3	0.5	VT/YE	5526	Tap Up/Tap Down Switch Signal	I	-
4	0.5	BK/WH	1851	Signal Ground	I	-

S5 Center Console Compartment Lamp Switch (D07)



Connector Part Information

Harness Type: Floor Console

OEM Connector: 10787635

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.2 Timer Series (NA)

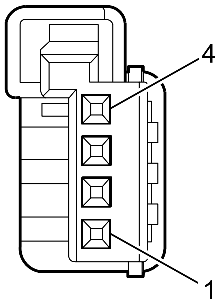
Terminal Part Information

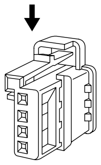
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

S5 Center Console Compartment Lamp Switch (D07)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH/BN	6815	Inadvertent Power Control	I	—
2	0.5	WH/BN	6815	Inadvertent Power Control	I	—

S12 Dome Lamp Switch





Connector Part Information

Harness Type: Overhead Console

OEM Connector: 13862319

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64 Micro Quadlok Series (BN)

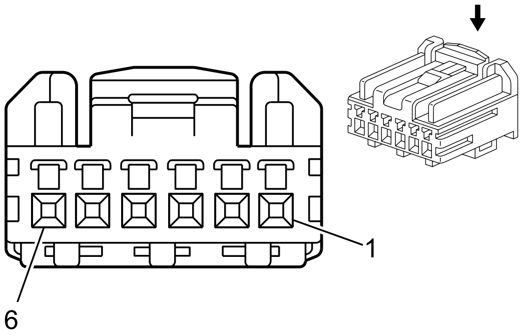
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S12 Dome Lamp Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	1050	Ground	I	—
2	0.35	GY/L-GN	328	Interior Lamp Defeat Switch Signal	I	—
3	0.35	GY	156	Courtesy Lamp Switch Signal	I	—
4	0.35	YE	6817	LED Backlight Dimming Control	I	—

S13D Door Lock Switch - Driver (A31)



Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: 15484551

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 HCM Series (BK)

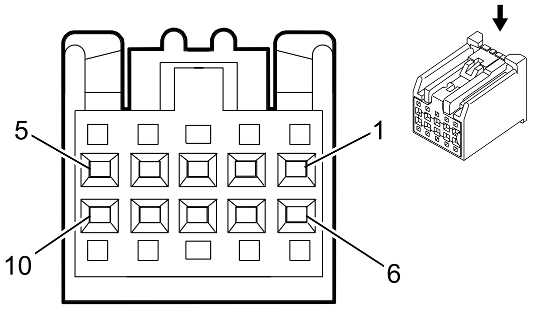
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S13D Door Lock Switch - Driver (A31)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	YE	6817	LED Backlight Dimming Control	I	—
3	0.35	BN/YE	780	Driver Door Lock Switch Lock Signal	I	—
4	0.35	BN/WH	781	Driver Door Lock Switch Unlock Signal	I	—
5	0.35	BK	1150	Ground	I	—
6	—	—	—	Not Occupied	—	—

S13D Door Lock Switch - Driver (-A31)



Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: 13815336

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F 0.64 Kaizen Series (BK)

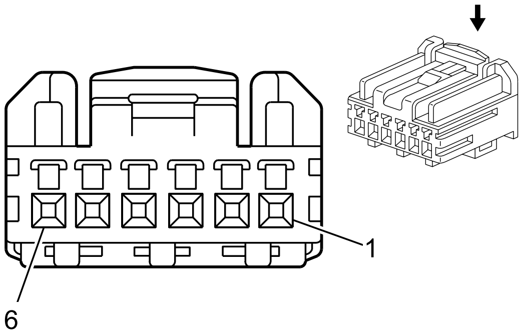
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S13D Door Lock Switch - Driver (-A31)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1150	Ground	I	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.35	YE	6817	LED Backlight Dimming Control	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	BN/YE	780	Driver Door Lock Switch Lock Signal	I	—
7	0.35	BN/WH	781	Driver Door Lock Switch Unlock Signal	I	—
8 - 10	—	—	—	Not Occupied	—	—

S13P Door Lock Switch - Passenger (A31)



Connector Part Information

Harness Type: Passenger Door Trim

OEM Connector: 15484551

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 HCM Series (BK)

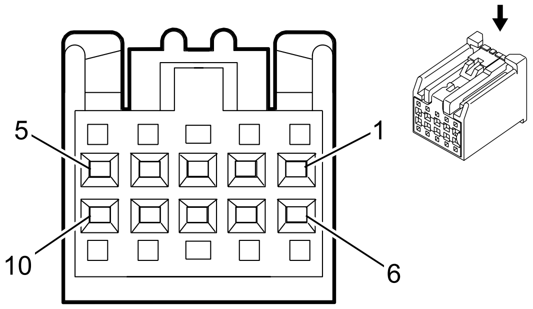
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S13P Door Lock Switch - Passenger (A31)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	YE	6817	LED Backlight Dimming Control	I	—
3	0.35	YE/VT	244	Passenger Door Lock Switch Lock Control	I	—
4	0.35	BN/VT	245	Passenger Door Lock Switch Unlock Control	I	—
5	0.35	BK	1250	Ground	I	—
6	—	—	—	Not Occupied	—	—

S13P Door Lock Switch - Passenger (-A31)



Connector Part Information

Harness Type: Passenger Door Trim

OEM Connector: 13815336

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F 0.64 Kaizen Series (BK)

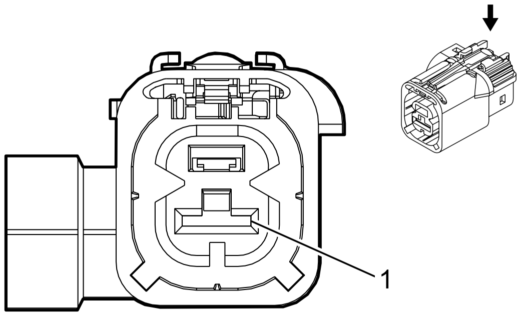
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S13P Door Lock Switch - Passenger (-A31)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1250	Ground	I	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.35	YE	6817	LED Backlight Dimming Control	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	YE/VT	244	Passenger Door Lock Switch Lock Control	I	—
7	0.35	BN/VT	245	Passenger Door Lock Switch Unlock Control	I	—
8 - 10	—	—	—	Not Occupied	—	—

S15 Manual Service Disconnect X2



Connector Part Information

Harness Type: High Voltage Battery Positive

OEM Connector: 33119078

Service Connector: Service by Harness - See Part Catalog

Description: 1-Way F 6.3 Series (OG)

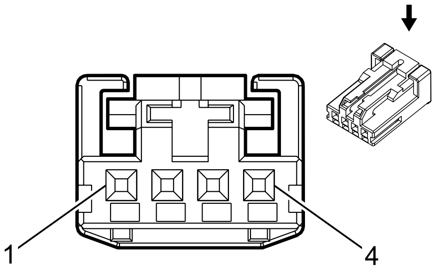
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required

S15 Manual Service Disconnect X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
A	0	—	5084	High Voltage Battery (+)	I	—

S15 Manual Service Disconnect X3



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 13969166

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

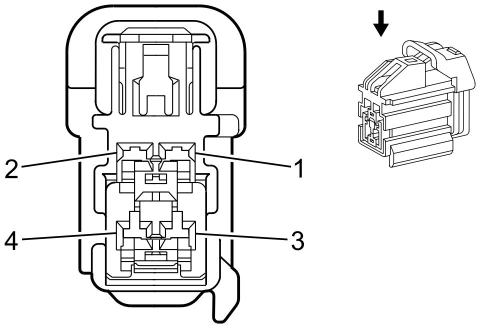
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S15 Manual Service Disconnect X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.35	WH	2965	High Voltage Battery Current Sensor Voltage Reference	I	—
3	0.35	WH	2963	High Voltage Battery Current Sensor Low Reference	I	—
4	0.35	WH	2962	High Voltage Battery Current Sensor Course Signal	I	—

S15 Manual Service Disconnect X4



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 10846820

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F Kaizen YESC Series (L-GY)

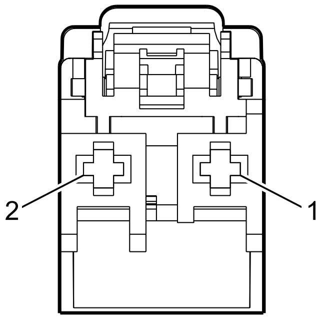
Terminal Part Information

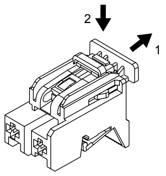
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

S15 Manual Service Disconnect X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH	5138	Precharge Relay	I	—
2	0.35	WH	150	Ground	I	—
3	0.35	WH	3961	High Voltage Battery (-) Relay Control	I	—
4	0.35	WH	3959	High Voltage Battery 1 (+) Relay Control	I	—

S15 Manual Service Disconnect X5





Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 13848288

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 2.8 MCP Series (OG)

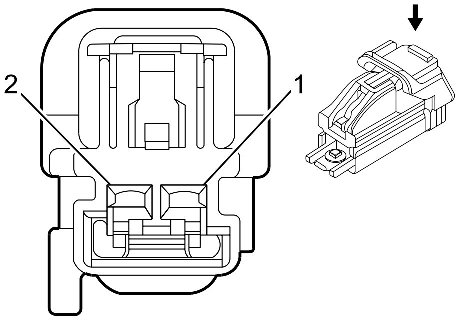
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

S15 Manual Service Disconnect X5

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	3546	High Voltage Battery Positive Monitor Signal	I	—
2	0.5	WH	3548	High Voltage Battery Negative Monitor Signal	I	—

S15 Manual Service Disconnect X6



Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 10846794

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.5 YESC Series (L-GY)

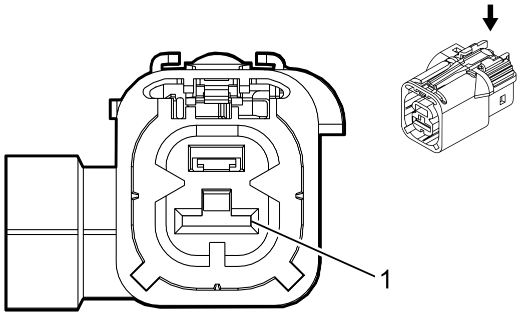
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

S15 Manual Service Disconnect X6

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	WH	150	Ground	I	—
2	—	—	—	Not Occupied	—	—

S15 Manual Service Disconnect X7



Connector Part Information

Harness Type: High Voltage Body

OEM Connector: 33119078

Service Connector: Service by Harness - See Part Catalog

Description: 1-Way F 6.3 Series (OG)

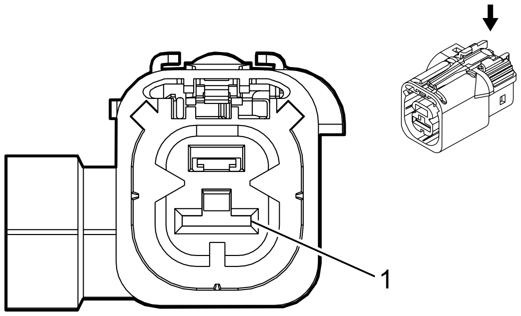
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required

S15 Manual Service Disconnect X7

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—

S15 Manual Service Disconnect X8



Connector Part Information

Harness Type: High Voltage Body

OEM Connector: 33119077

Service Connector: Service by Harness - See Part Catalog

Description: 1-Way F 6.3 Series (OG)

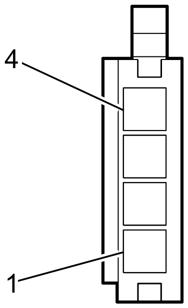
Terminal Part Information

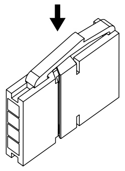
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required

S15 Manual Service Disconnect X8

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
A	12	OG	5083	High Voltage Battery (-)	I	—

S25 Garage Door Opener





Connector Part Information

Harness Type: Overhead Console

OEM Connector: 13879342

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F f13601803 (BK)

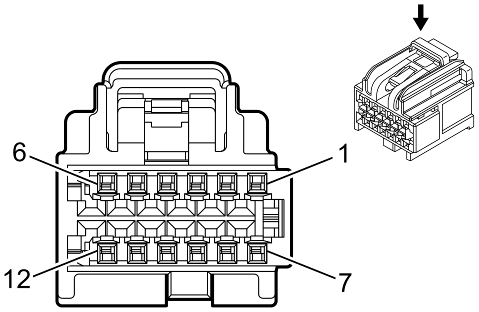
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S25 Garage Door Opener

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/YE	240	Battery Positive Voltage	I	—
2	0.35	YE	6817	LED Backlight Dimming Control	I	—
3	—	—	—	Not Occupied	—	—
4	0.35	BK	1050	Ground	I	—

S30 Headlamp Switch



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13782625

Service Connector: 19301730

Description: 12-Way F 0.64 Series (BK)

Terminal Part Information

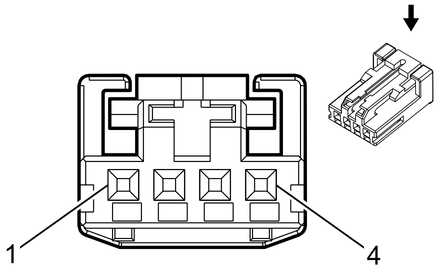
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19300660	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

S30 Headlamp Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/VT	103	Headlamp Switch On Signal	I	—
2	0.5	YE	6817	LED Backlight Dimming Control	I	—
3	0.35	L-GN/BN	306	Headlamp Switch Headlamps Off Signal Control	I	—
4	—	—	—	Not Occupied	—	—
5	0.35	L-GN/GY	13	Headlamp Switch Park Lamp Signal	I	—
6	—	—	—	Not Occupied	—	—
7	0.35	BK/YE	5005	Instrument Panel Lamp Dimmer Switch Low Reference	I	—
8	0.5	BK	1850	Ground	I	—
9	—	—	—	Not Occupied	—	—

10	0.35	D-BU/GY	192	Front Fog Lamp Switch Signal	I	—
11	0.35	YE/GY	44	Instrument Panel Lamp Dimmer Switch Signal	I	—
12	0.35	D-BU/RD	1688	5 Volt Reference	I	—

S31D Seat Heating and Cooling Switch - Driver



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13853727

Service Connector: 19300597

Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

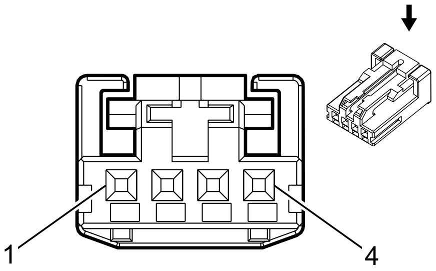
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S31D Seat Heating and Cooling Switch - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BK	1850	Ground	I	—
2	—	—	—	Not Occupied	—	—
3	0.5	L-GN/WH	7527	Local Interconnect Network Serial Data Bus 5	I	—
4	0.35	RD/GY	2840	Battery Positive Voltage	I	—

S31P Seat Heating and Cooling Switch - Passenger



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13853727

Service Connector: 19300597

Description: 4-Way F 0.64 Micro-Quadlock Series (BK)

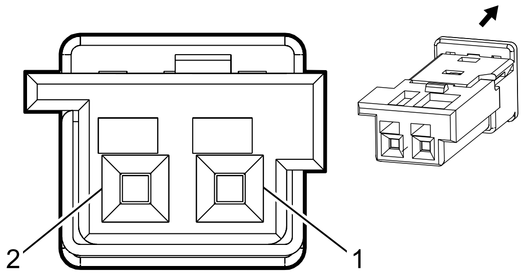
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S31P Seat Heating and Cooling Switch - Passenger

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	RD/GY	2840	Battery Positive Voltage	I	—
2	0.5	L-GN/WH	7527	Local Interconnect Network Serial Data Bus 5	I	—
3	—	—	—	Not Occupied	—	—
4	0.5	BK	1850	Ground	I	—

S33 Horn Switch



Connector Part Information

Harness Type: Steering Wheel

OEM Connector: 13235945

Service Connector: Service by Harness – See Part Catalog

Description: 2-Way M 0.64 Micro Power Quadlok Series (BK)

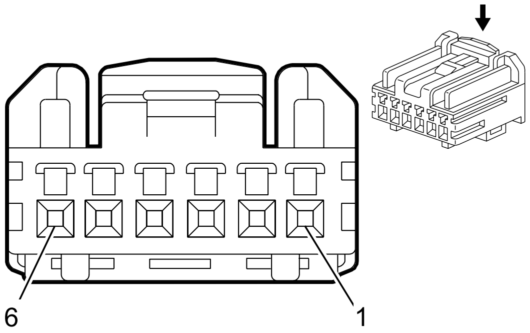
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

S33 Horn Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GN/WH	3287	Horn Switch Signal	I	-
2	0.35	BK	1050	Ground	I	-

S39 Ignition Switch



Connector Part Information

Harness Type: Steering Column

OEM Connector: HCMPB-C06-K

Service Connector: 19153174

Description: 6-Way F 0.64 HCM Series (BK)

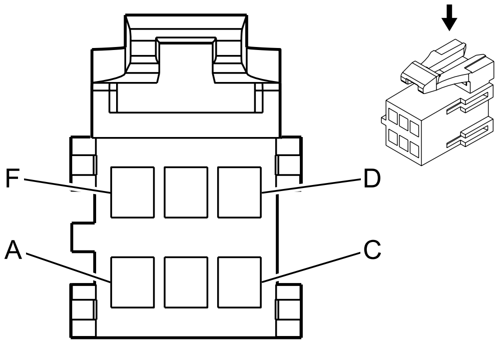
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

S39 Ignition Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	-	-	-	Not Occupied	-	-
2	0.5	VT/BK	3	Run/Crank Ignition 1 Voltage	I	-
3	0.5	VT/YE	4	Accessory Voltage	I	-
4	0.5	RD/D-BU	540	Battery Positive Voltage	I	-
5	0.5	WH/VT	1020	Off/Run/Crank Voltage	I	-
6	0.5	WH/BK	1073	Ignition Key Resistor Signal	I	-

S40 Passenger Air Bag Disable Switch



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15305286

Service Connector: 15306014

Description: 6-Way F 150 Metri-Pack Series (YE)

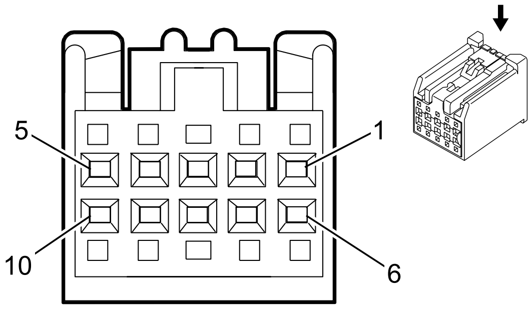
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

S40 Passenger Air Bag Disable Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.35	D-BU/OG	7328	Passenger IP Module Disable Switch Low Reference	I	—
B - C	—	—	—	Not Occupied	—	—
D	0.35	VT/OG	371	Passenger IP Module Disable Switch Signal	I	—
E - F	—	—	—	Not Occupied	—	—

S47D Seat Memory Switch - Driver



Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: 13815336

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F 0.64 Kaizen Series (BK)

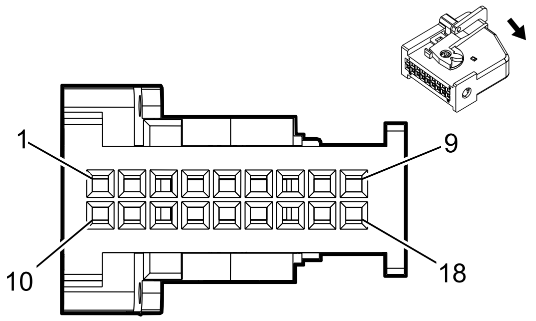
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S47D Seat Memory Switch - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK/D-BU	5978	Memory Switch Low Reference	I	—
2	0.35	YE	6817	LED Backlight Dimming Control	I	—
3 - 4	—	—	—	Not Occupied	—	—
5	0.35	D-BU/L-GN	614	Memory Seat Switch Set Signal	I	—
6	0.35	WH	615	Memory Seat Switch Signal (1)	I	—
7 - 10	—	—	—	Not Occupied	—	—

S48A Multifunction Switch - Instrument Panel X1



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 10820548

Service Connector: 13584100

Description: 18-Way F 0.64 Series (BK)

Terminal Part Information

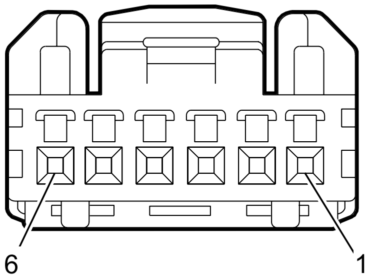
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575782	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

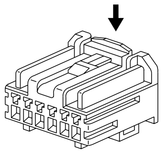
S48A Multifunction Switch - Instrument Panel X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	6817	LED Backlight Dimming Control	I	—
2	0.35	WH	6816	Indicator Dimming Control	I	—
3	0.35	D-BU/YE	6844	ABS/TCS Hill Descent Control Switch Signal	I	—
4	0.35	D-BU/YE	6844	ABS/TCS Hill Descent Control Switch Signal	I	—
5	0.35	WH	3152	Lane Departure Warning Indicator Control	I	—
6	0.35	L-GN/BN	5852	Rear Park Assist LED Disable Signal	I	—
7	0.5	BN/WH	1429	Standing Lamp Relay Control	I	—
8	0.35	GY/WH	3153	Lane Departure Warning Disable Switch Signal	I	—

9	0.35	GY/L-GN	2555	Rear Park Assist Disable Signal	I	—
10	0.5	WH/D-BU	964	—	I	—
11	0.5	L-GN/GY	963	—	I	—
12	0.5	RD/WH	961	—	I	—
13	0.5	YE/WH	962	—	I	—
14	0.5	BK	1850	Ground	I	—
15	0.35	WH/GY	5285	Adjustable Pedal Switch Rearward Signal	I	—
16	0.35	L-GN/GY	5286	Adjustable Pedal Switch Forward Signal	I	—
17	0.35	D-BU/VT	1788	Traction Control Switch Signal (1)	I	—
18	0.5	GY	158	Cargo Lamp Switch Signal	I	—

S48A Multifunction Switch - Instrument Panel X2





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15488869

Service Connector: 19115655

Description: 6-Way F 0.64 HCM Series (BK)

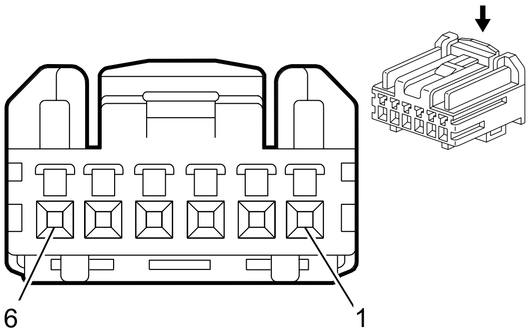
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S48A Multifunction Switch - Instrument Panel X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/L-GN	4311	Power Take Off Enable In Cab Switch Normally Closed Signal	I	—
2	0.35	L-GN/WH	488	Power Take Off Control Switch	I	—
3	0.35	VT/L-GN	1739	Run/Crank Ignition 1 Voltage	I	—
4	0.5	L-GN/YE	2081	Exhaust Brake Switch Control	I	—
5	0.35	L-GN/WH	3438	Exhaust Brake Switch Signal	I	—
6	—	—	—	Not Occupied	—	—

S48A Multifunction Switch - Instrument Panel X2 (LC8)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15488869

Service Connector: 19115655

Description: 6-Way F 0.64 HCM Series (BK)

Terminal Part Information

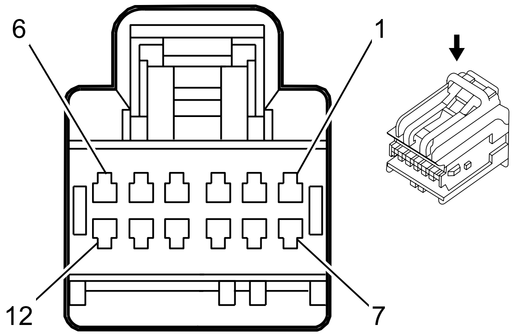
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S48A Multifunction Switch - Instrument Panel X2 (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN	4311	Power Take Off Enable In Cab Switch Normally Closed Signal	I	—
	0.35	BN/L-GN	4311			—
2	0.35	—	488	Power Take Off Control Switch	I	—
	0.35	L-GN/WH	488			—
3	0.35	VT	1739	Run/Crank Ignition 1 Voltage	I	—
	0.35	VT/L-GN	1739			—
4	0.5	—	2081	Exhaust Brake Switch Control	I	—
	0.5	L-GN/YE	2081			—

5	0.35	—	3438	Exhaust Brake Switch Signal	I	—
	0.35	L-GN/WH	3438			—
6	—	—	—	Not Occupied	—	—

S52 Outside Rearview Mirror Switch (A45)



Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: 13889385

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 64 Series, Sealed (BN)

Terminal Part Information

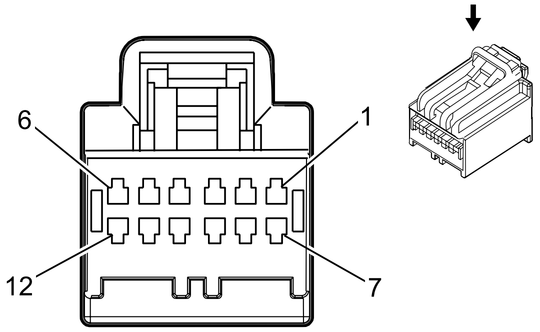
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S52 Outside Rearview Mirror Switch (A45)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY/BN	3394	Driver Mirror Position Sensor Up (+) Down (-) Signal	I	—
2	0.35	VT/RD	3392	Driver Mirror Position Sensor 5 Volt Reference	I	—
3	0.75	BK	1150	Ground	I	—
4	0.75	VT/D-BU	3390	Driver Mirror Motor Up (+) Down (-) Control	I	—
5	0.75	WH/L-GN	3412	Driver Mirror Motor Fold In Control	I	—
6	0.75	YE/BN	3391	Driver Mirror Motor Common Control	I	—
7	0.35	WH/YE	3395	Driver Mirror Position Sensor Left (-) Right (+) Signal	I	—
8	0.35	BK/BN	3393	Driver Mirror Position Sensor Low Reference	I	—

9	0.5	L-GN/WH	7530	Local Interconnect Network Serial Data Bus 8	I	—
10	0.75	RD/VT	1940	Battery Positive Voltage	I	—
11	0.75	BN/BK	3389	Driver Mirror Motor Right (+) Left (-) Control	I	—
12	0.75	GY/WH	3411	Driver Mirror Motor Fold Out Control	I	—

S52 Outside Rearview Mirror Switch (-A45)



Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: 13587624

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 64 Series, Sealed (GY)

Terminal Part Information

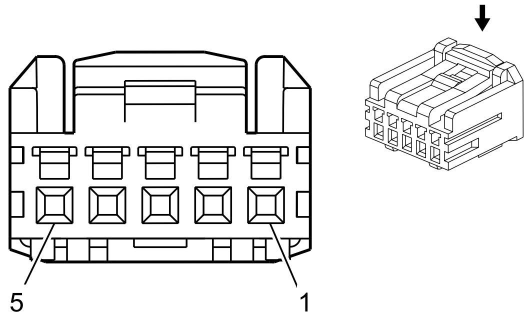
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S52 Outside Rearview Mirror Switch (-A45)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE/VT	3397	Passenger Mirror Motor Up (+) Down (-) Control	I	—
2	0.75	WH/L-GN	3412	Driver Mirror Motor Fold In Control	I	—
3	0.75	YE/BN	3391	Driver Mirror Motor Common Control	I	—
4	0.75	L-GN/BK	3396	Passenger Mirror Motor Right (+) Left (-) Control	I	—
5	0.75	BK	1150	Ground	I	—
6	0.35	YE	6817	LED Backlight Dimming Control	I	—
7	0.75	VT/D-BU	3390	Driver Mirror Motor Up (+) Down (-) Control	I	—
8	0.75	WH	3398	Passenger Mirror Motor Common Control	I	—

9	0.75	GY/WH	3411	Driver Mirror Motor Fold Out Control	I	—
10	0.75	BN/BK	3389	Driver Mirror Motor Right (+) Left (-) Control	I	—
11	—	—	—	Not Occupied	—	—
12	0.75	RD/VT	1940	Battery Positive Voltage	I	—

S63 Roof Beacon Switch



Connector Part Information

Harness Type: Overhead Console

OEM Connector: 15491277

Service Connector: Service by Harness - See Part Catalog

Description: 5-Way F HCM Series (BK)

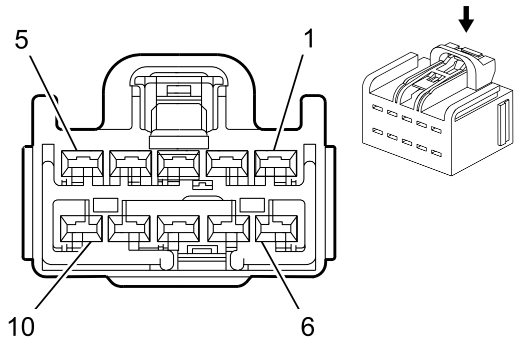
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S63 Roof Beacon Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1050	Ground	I	—
2	0.5	YE	6817	LED Backlight Dimming Control	I	—
3	0.5	RD/YE	240	Battery Positive Voltage	I	—
4	0.5	WH/BK	5990	Emergency Lamp Switch Signal	I	—
5	—	—	—	Not Occupied	—	—

S64D Seat Adjuster Switch - Driver X1



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7283-6457-40

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F Kaizen YESC Series (L-GY)

Terminal Part Information

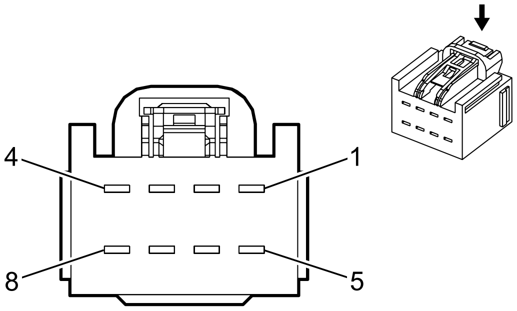
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

S64D Seat Adjuster Switch - Driver X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/BR	1518	Power Seat Front Vertical Up Switch Signal	I	—
	1.5	L-GN/BR	286	Driver Power Seat Front Vertical Motor Up Control		—
2	2.5	BK	1150	Ground	I	—
3	0.5	YE/BR	1522	Power Seat Horizontal Forward Switch Signal	I	—
	1.5	YE/L-BU	285	Driver Power Seat Horizontal Motor Forward Control		—
4	0.5	GY/BK	1269	Power Seat Recline Forward Switch Signal	I	—
	1.5	L-GN/YE	276	Driver Power Seat Recline Motor Forward Control		—
5	0.5	L-BU/VT	1520	Power Seat Front Vertical Down Switch Signal	I	—
	1.5	L-BU/VT	287	Driver Power Seat Front Vertical Motor Down Control		—

6	0.35	BK	1150	Ground	I	—
	2.5	RD/YE	5040	Battery Positive Voltage		—
7	0.5	GY/L-GN	1523	Power Seat Horizontal Rearward Switch Signal	I	—
	1.5	GY/L-GN	284	Driver Power Seat Horizontal Motor Rearward Control		—
8	0.5	YE	1519	Power Seat Rear Vertical Up Switch Signal	I	—
	1.5	YE	282	Driver Power Seat Rear Vertical Motor Up Control		—
9	0.5	L-GN/GY	1270	Power Seat Recline Rearward Switch Signal	I	—
	1.5	L-BU/YE	277	Driver Power Seat Recline Motor Rearward Control		—
10	0.5	YE/L-BU	1521	Power Seat Rear Vertical Down Switch Signal	I	—
	1.5	GY/L-BU	283	Driver Power Seat Rear Vertical Motor Down Control		—

S64D Seat Adjuster Switch - Driver X2



Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7283-3243-40

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 2.8 Series (L-GY)

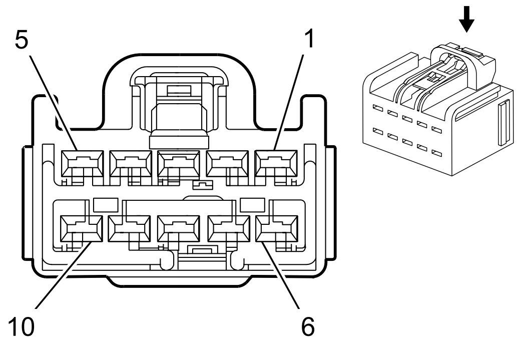
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

S64D Seat Adjuster Switch - Driver X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	1066	Driver Seat Lumbar Up Switch Signal	I	—
2	0.5	YE	1065	Driver Seat Lumbar Forward Switch Signal	I	—
	1.5	L-BU	611	Driver Power Seat Lumbar Motor Forward Control		—
3 - 4	—	—	—	Not Occupied	—	—
5	0.5	YE/BK	1067	Driver Seat Lumbar Down Switch Signal	I	—
6	0.5	L-BU/VT	1064	Driver Seat Lumbar Rearward Switch Signal	I	—
	1.5	VT	610	Driver Power Seat Lumbar Motor Rearward Control		—
7 - 8	—	—	—	Not Occupied	—	—

S64P Seat Adjuster Switch - Passenger X1



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 7283-6457-40

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F Kaizen YESC Series (L-GY)

Terminal Part Information

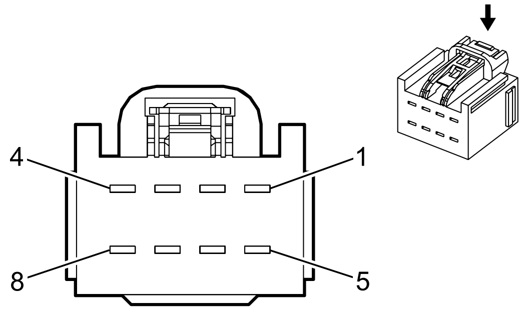
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

S64P Seat Adjuster Switch - Passenger X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	1.5	L-GN/L-BU	298	Passenger Power Seat Front Vertical Motor Down Control	I	—
2	1.5	L-GN	76	Passenger Power Seat Recline Motor Forward Control	I	—
3	1.5	YE/WH	296	Passenger Power Seat Horizontal Motor Forward Control	I	—
4	1.5	L-GN/VT	297	Passenger Power Seat Front Vertical Motor Up Control	I	—
5	2.5	BK	1250	Ground	I	—
6	1.5	L-BU/WH	289	Passenger Power Seat Rear Vertical Motor Down Control	I	—
7	1.5	L-BU/BR	77	Passenger Power Seat Recline Motor Rearward Control	I	—
8	1.5	L-GN/WH	288	Passenger Power Seat Rear Vertical Motor Up Control	I	—

9	1.5	YE/L-BU	290	Passenger Power Seat Horizontal Motor Rearward Control	I	—
10	2.5	RD/BR	1440	Battery Positive Voltage	I	—

S64P Seat Adjuster Switch - Passenger X2



Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 7283-3243-40

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 2.8 Series (L-GY)

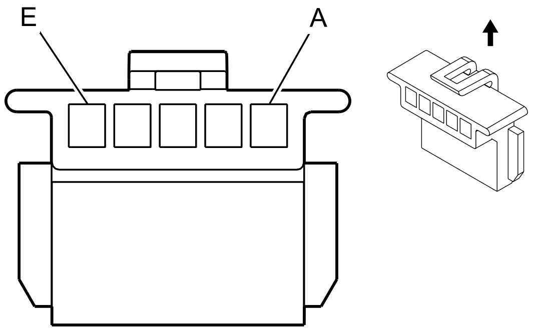
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

S64P Seat Adjuster Switch - Passenger X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	1.5	VT	210	Passenger Power Seat Lumbar Motor Rearward Control	I	—
4	1.5	BR/YE	793	Passenger Power Seat Lumbar Motor Up Control	I	—
5	—	—	—	Not Occupied	—	—
6	1.5	L-BU	211	Passenger Power Seat Lumbar Motor Forward Control	I	—
7	—	—	—	Not Occupied	—	—
8	1.5	L-BU/YE	792	Passenger Power Seat Lumbar Motor Down Control	I	—

S68 Sliding Rear Window Switch



Connector Part Information

Harness Type: Overhead Console

OEM Connector: 12124997

Service Connector: Service by Harness - See Part Catalog

Description: 5-Way F 150 Metri-Pack Series (BK)

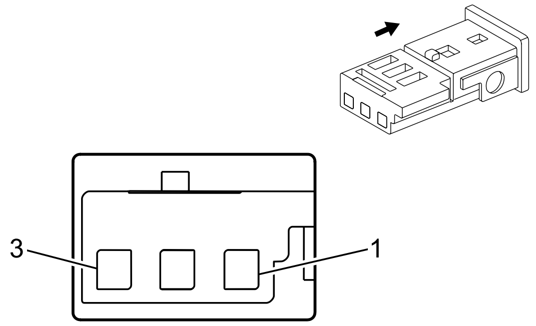
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

S68 Sliding Rear Window Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.35	VT/YE	43	Accessory Ignition Voltage	I	—
B	0.35	WH	6192	Power Sliding Window Switch Close Signal	I	—
C	0.35	YE/VT	6191	Power Sliding Window Switch Open Signal	I	—
D	0.5	BK	1050	Ground	I	—
E	0.35	YE	6817	LED Backlight Dimming Control	I	—

S70E Steering Wheel Controls Switch - Radio Presets (UK3)



Connector Part Information

Harness Type: Steering Wheel

OEM Connector: 13153088

Service Connector: 13314078

Description: 3-Way F 0.64 Micro Quadlock Series (BK)

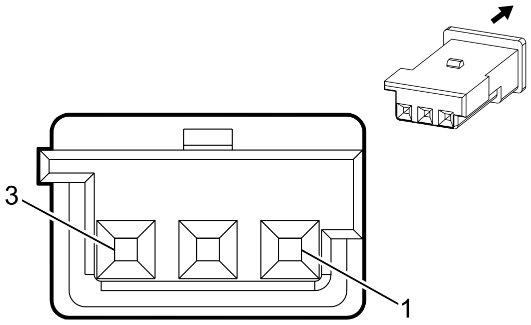
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

S70E Steering Wheel Controls Switch - Radio Presets (UK3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	WH/YE	4313	Radio Favorite Forward Signal	I	UK3
2	0.35	YE/BU	4312	Radio Favorite Back Signal	I	UK3
3	0.35	BK	1050	Ground	I	UK3

S70F Steering Wheel Controls Switch - Radio Volume (UK3)



Connector Part Information

Harness Type: Steering Wheel

OEM Connector: 4-1718346-1

Service Connector: Service by Harness — See Part Catalog

Description: 3-Way F Micro Quadlock Series (PU)

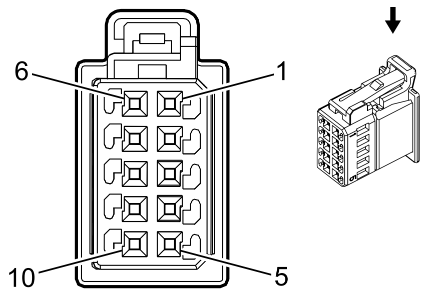
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

S70F Steering Wheel Controls Switch - Radio Volume (UK3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	BU	4315	Radio Volume Up Signal	I	-
2	0.5	GN/BN	4314	Radio Volume Down Signal	I	-
3	0.5	BK	1550	Ground	I	-

S70L Steering Wheel Controls Switch - Left (UK3)



Connector Part Information

Harness Type: Steering Wheel Harness

OEM Connector: 13582766

Service Connector: 19299776

Description: 10-Way F MQS Series

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

S70L Steering Wheel Controls Switch - Left (UK3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	1050	Ground	I	K34
2	0.5	BK	1050	Ground	I	UVD
3	0.35	GY/OG	5737	Adaptive Cruise Control Gap Up/Down Switch Signal	I	K34/K59/KSG/UEU
4	0.35	BN/YE	1884	Cruise Control Set/Coast/Resume/Accelerate Switch Signal	I	K34
5	0.35	OG	5883	Heated Steering Wheel Switch Signal	I	UVD
6	0.35 0.35	YE YE	6817 6136	LED Backlight Dimming Control Supply Voltage	I	K34/UK3 K34-UK3
7	0.35	WH	6816	Indicator Dimming Control	I	UVD
8	0.35	PK	5884	Heated Steering Wheel Switch LED Control	I	UVD
9	0.35	WH	1444	12 Volt Reference	I	K34
10	0.35	RD/YE	3040	Battery Positive Voltage	I	-

S70R Steering Wheel Controls Switch - Right (UK3)

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Connector Part Information

Harness Type: Steering Wheel

OEM Connector: 13582767

Service Connector: Service by Harness – See Part Catalog

Description: 10–Way F

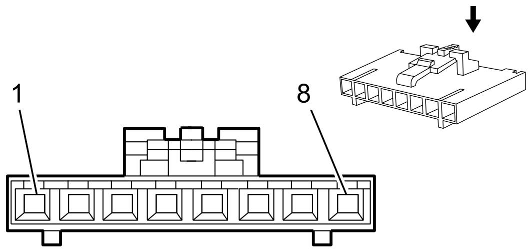
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

S70R Steering Wheel Controls Switch - Right (UK3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	YE	6817	LED Backlight Dimming Control	I	K34/UK3
2	0.35	WH	6816	Indicator Dimming Control	I	UVD
3	0.5	GN	3894	Linear Interconnect Network Bus 12	I	UK3
4	-	-	-	Not Occupied	-	-
5	0.35	RD/YE	3040	Battery Positive Voltage	I	UK3
6	0.35	BK	1050	Ground	I	UK3
7	0.35	BU	4315	Radio Volume Up Signal	I	UK3
8	0.35	GN/BN	4314	Radio Volume Down Signal	I	UK3
9	0.35	WH/YE	4313	Radio Favorite Forward Signal	I	UK3
10	0.35	YE/BU	4312	Radio Favorite Back Signal	I	UK3

S72 Sunroof Switch



Connector Part Information

Harness Type: Overhead Console

OEM Connector: 12103492

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 0.64 SL Series (BK)

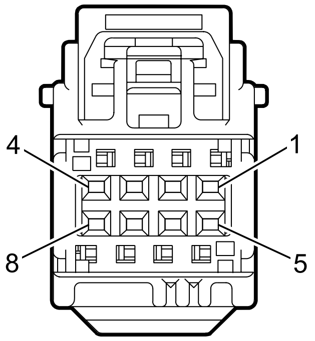
Terminal Part Information

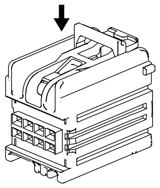
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S72 Sunroof Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BN/D-BU	2074	Sunroof Switch Express Signal	I	—
2	0.35	YE/VT	144	Sunroof Switch Open Vent Signal	I	—
3	0.35	YE	6817	LED Backlight Dimming Control	I	—
4	0.35	D-BU/WH	110	Sunroof Switch Close Signal	I	—
5	—	—	—	Not Occupied	—	—
6	0.35	L-GN/WH	100	Sunroof Switch Open Signal	I	—
7	0.35	BK	1050	Ground	I	—
8	0.35	GY/VT	2075	Sunroof Switch Close Vent Signal	I	—

S76 Trailer Brake Control Switch





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13518475

Service Connector: 13576542

Description: 8-Way F YESC Kaizen Series (BK)

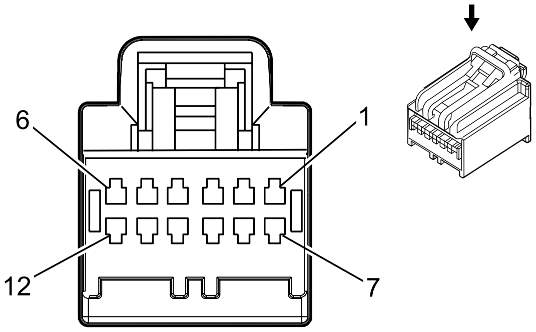
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S76 Trailer Brake Control Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	D-BU/RD	7632	Integrated Trailer Brake Controller Switch 5 Volt Reference	I	—
4	0.5	YE	7635	Integrated Trailer Brake Controller Manual Apply Signal	I	—
5	0.5	BN	7634	Integrated Trailer Brake Controller Redundant Manual Apply Signal	I	—
6	0.5	L-GN/BK	7633	Integrated Trailer Brake Controller User Gain Signal	I	—
7	0.35	YE	6817	LED Backlight Dimming Control	I	—
8	0.5	BK/BN	7631	Integrated Trailer Brake Controller Switch Low Reference	I	—

S77 Transfer Case Shift Control Switch (NQF/NQH)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13587624

Service Connector: 19151154

Description: 12-Way F 64 Series, Sealed (GY)

Terminal Part Information

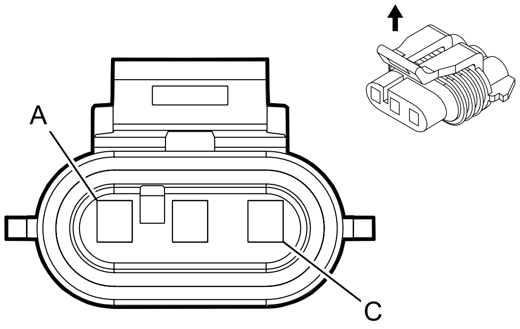
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575867	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

S77 Transfer Case Shift Control Switch (NQF/NQH)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	0.5	VT/BN	300	Run Ignition 3 Voltage	I	—
3	0.35	BN	1560	Neutral Indicator Control	I	—
4	0.35	WH	6816	Indicator Dimming Control	I	—
5	0.35	YE	6817	LED Backlight Dimming Control	I	—
6	0.5	BK	1050	Ground	I	—
7	0.35	GY/L-GN	1561	AWD Indicator Control	I	—
8	0.35	L-GN/BK	1563	2 HI Indicator Control	I	—

9	0.35	BN/BK	1566	4 HI Indicator Control	I	—
10	0.35	VT/WH	1565	4 LO Indicator Control	I	—
11	0.35	GY/RD	6029	Four Wheel Drive Mode Switch 5 Volt Reference	I	—
12	0.35	D-BU/YE	1693	Four Wheel Drive Switch Signal	I	—

S77 Transfer Case Shift Control Switch (NQG)



Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 12059595

Service Connector: 13585316

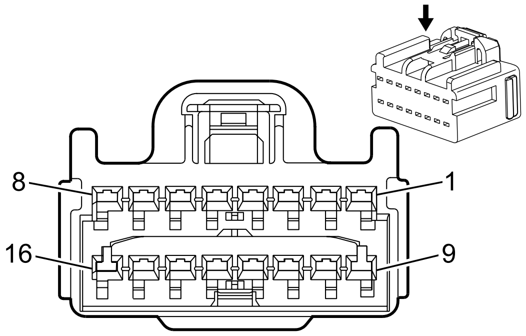
Description: 3-Way F 150 Metri-Pack Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

S77 Transfer Case Shift Control Switch (NQG)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	BK	550	Ground	I	—
B	0.5	GY/BK	1694	Four Wheel Drive Low Signal	I	—
C	0.5	GY/BK	1570	Front Axle Actuator Control	I	—



Connector Part Information

Harness Type: Steering Column

OEM Connector: 7283-6453-60

Service Connector: 89047090

Description: 16-Way F Kaizen YESC Series (GN)

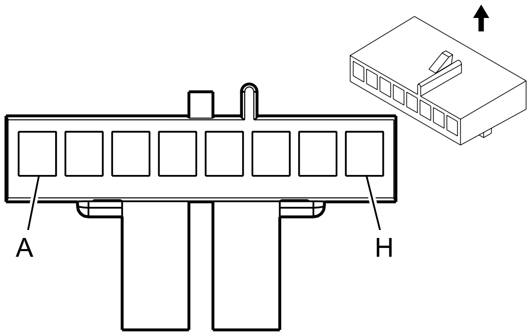
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

S78 Turn Signal Multifunction Switch X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1-3	-	-	-	Not Occupied	-	-
4	0.5	GY	1715	Windshield Wiper Switch High Signal	I	-
5	-	-	-	Not Occupied	-	-
6	0.5	WH/BK	94	Windshield Washer Switch Signal	I	-
7	0.5	BK/GY	6009	Low Reference	I	-
8	0.5	YE/BU	1714	Windshield Wiper Switch Low Signal	I	-
9	-	-	-	Not Occupied	-	-
10	0.5	YE/BN	307	Headlamp Switch Flash To Pass Signal	I	-
11-12	-	-	-	Not Occupied	-	-
13	0.5	BK/WH	1851	Signal Ground	I	-
14	0.5	WH	524	Headlamp Dimmer Switch High Beam Signal	I	-
15-16	-	-	-	Not Occupied	-	-

S78 Turn Signal Multifunction Switch X2



Connector Part Information

Harness Type: Steering Column

OEM Connector: 15466859

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 150 Metri Pack Series (L-GY)

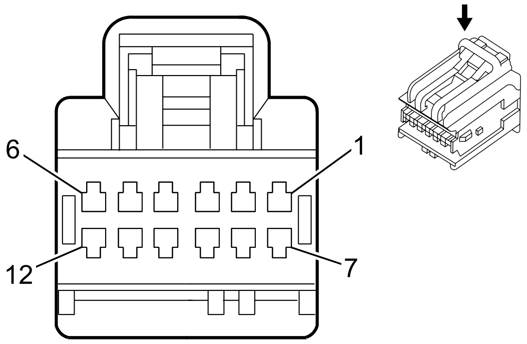
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

S78 Turn Signal Multifunction Switch X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A-B	-	-	-	Not Occupied	-	-
C	0.5	BK/WH	1851	Signal Ground	I	-
D	0.5	VT/BU	664	Hazard Switch Right Turn Signal	I	-
E	0.5	WH/GN	663	Hazard Switch Left Turn Signal	I	-
F	0.5	BK/WH	1851	Signal Ground	I	-
G	0.5	GN/WH	111	Hazard Switch Signal	I	-
H	-	-	-	Not Occupied	-	-

S79D Window Switch - Driver



Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: 13551678

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 0.64 Series (BK)

Terminal Part Information

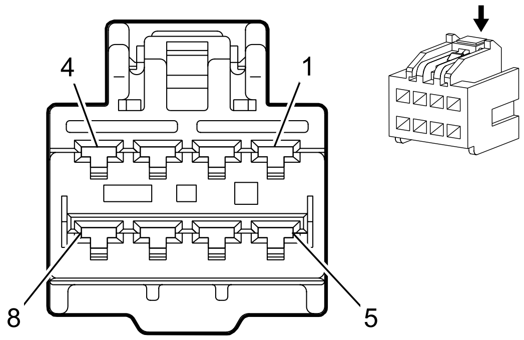
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S79D Window Switch - Driver

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	1150	Ground	I	—
2	0.35	L-GN/VT	7628	Power Window Motor Left Front Express Control	I	—
3	0.35	GY	1136	Power Window Master Switch Left Front Down Signal	I	—
4	0.5	RD/VT	1940	Battery Positive Voltage	I	—
5	0.5	L-GN/YE	6134	Local Interconnect Network Serial Data Bus 3	I	—
6	0.35	L-GN/WH	1300	Power Window Master Switch Left Front Up Signal	I	—
7	0.35	WH/VT	3270	Driver Door Lock Motor Status Signal	I	—
8	0.35	D-BU/VT	1124	Door Lock Key Switch Unlock Signal	I	—

9	—	—	—	Not Occupied	—	—
10	0.35	YE/BN	3265	Child Security Lock Switch Signal	I	—
11	0.35	WH	6816	Indicator Dimming Control	I	—
12	0.35	GY	5697	Child Lockout Indicator Control	I	—

S79LR Window Switch - Left Rear



Connector Part Information

Harness Type: Left Rear Door

OEM Connector: 15491286

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 2.8 Series (BK)

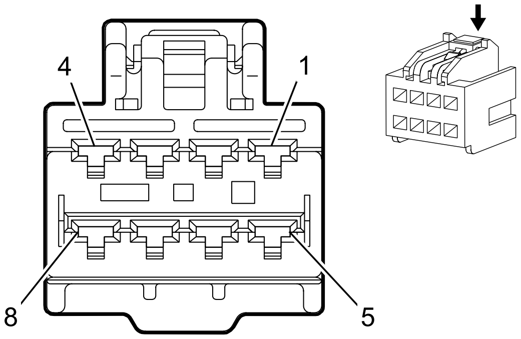
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

S79LR Window Switch - Left Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/GY	6135	Local Interconnect Network Serial Data Bus 4	I	—
2	0.35	GY/WH	747	Left Rear Door Ajar Switch Signal	I	—
3	0.5	BK	1150	Ground	I	—
4	—	—	—	Not Occupied	—	—
5	2.5	BK	1150	Ground	I	—
6	2.5	D-BU/VT	668	Power Window Motor Left Rear Up Control	I	—
7	2.5	YE/D-BU	669	Power Window Motor Left Rear Down Control	I	—
8	2.5	RD/D-BU	1842	Battery Positive Voltage	I	—

S79P Window Switch - Passenger (A31 without A45)



Connector Part Information

Harness Type: Passenger Door Trim

OEM Connector: 15491286

Service Connector: 13580111

Description: 8-Way F 2.8 Series (BK)

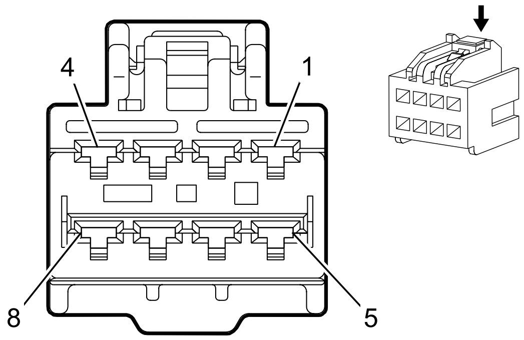
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Pending	J-35616-35 (VT)	J-38125-553	8100-4445	22	F	D
II	Pending	J-35616-35 (VT)	J-38125-553	8100-4443	22	E	A

S79P Window Switch - Passenger (A31 without A45)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BK	1250	Ground	I	-
2	2.5	L-GN/GY	3387	Power Window Motor Co-Driver Up Control	I	-
3	2.5	YE/D-BU	3388	Power Window Motor Co-Driver Down Control	I	-
4	2.5	RD/WH	1340	Battery Positive Voltage	I	-
5	0.5	L-GN/YE	6134	Linear Interconnect Network Bus 3	II	-
6-7	-	-	-	Not Occupied	-	-
8	0.35	GY	746	Right Front Door Ajar Switch Signal	II	-

S79P Window Switch - Passenger X1



Connector Part Information

Harness Type: Passenger Door Trim

OEM Connector: 15491286

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 2.8 Series (BK)

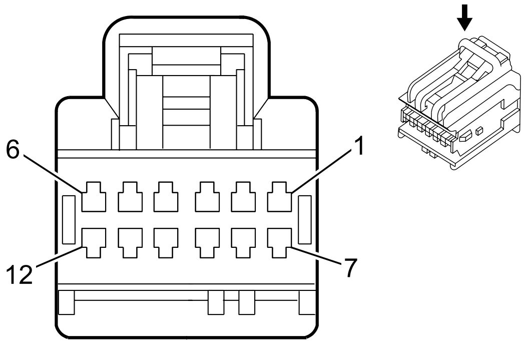
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

S79P Window Switch - Passenger X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	BK	1250	Ground	I	—
2	2.5	L-GN/GY	3387	Power Window Motor Passenger Up Control	I	—
3	2.5	YE/D-BU	3388	Power Window Motor Passenger Down Control	I	—
4	2.5	RD/WH	1340	Battery Positive Voltage	I	—
5	0.5	L-GN/YE	6134	Local Interconnect Network Serial Data Bus 3	I	—
6 - 7	—	—	—	Not Occupied	—	—
8	0.35	GY	746	Right Front Door Ajar Switch Signal	I	—

S79P Window Switch - Passenger X2



Connector Part Information

Harness Type: Passenger Door Trim

OEM Connector: 13551678

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 0.64 Series (BK)

Terminal Part Information

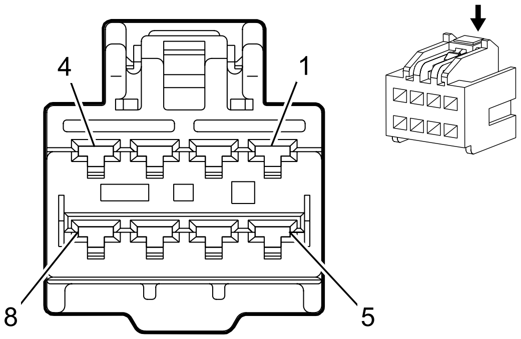
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S79P Window Switch - Passenger X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	YE/WH	3413	Passenger Mirror Motor Fold Out Control	I	—
2	0.75	YE/VT	3397	Passenger Mirror Motor Up (+) Down (-) Control	I	—
3	0.75	WH	3398	Passenger Mirror Motor Common Control	I	—
4	0.35	YE/RD	3399	Passenger Mirror Position Sensor 5 Volt Reference	I	—
5	0.35	D-BU/YE	3401	Passenger Mirror Position Sensor Up (+) Down (-) Signal	I	—
6	0.35	BK/L-GN	3400	Passenger Mirror Position Sensor Low Reference	I	—
7	0.75	D-BU/GY	3414	Passenger Mirror Motor Fold In Control	I	—
8	0.75	L-GN/BK	3396	Passenger Mirror Motor Right (+) Left (-) Control	I	—

9	0.5	L-GN/WH	7530	Local Interconnect Network Serial Data Bus 8	I	—
10	—	—	—	Not Occupied	—	—
11	0.35	VT/WH	3403	Passenger Mirror Position Sensor Left (-) Right (+) Signal	I	—
12	—	—	—	Not Occupied	—	—

S79RR Window Switch - Right Rear



Connector Part Information

Harness Type: Right Rear Door

OEM Connector: 15491286

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 2.8 Series (BK)

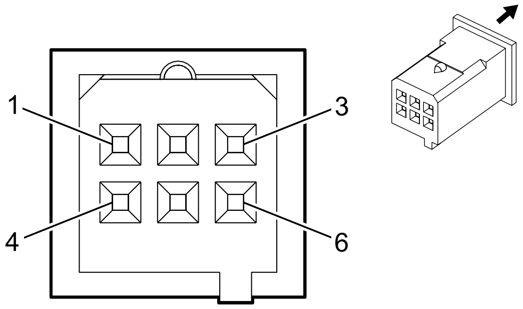
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

S79RR Window Switch - Right Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN/GY	6135	Local Interconnect Network Serial Data Bus 4	I	—
2	0.35	GY/WH	748	Right Rear Door Ajar Switch Signal	I	—
3 - 4	—	—	—	Not Occupied	—	—
5	2.5	BK	1250	Ground	I	—
6	2.5	D-BU/GY	670	Power Window Motor Right Rear Up Control	I	—
7	2.5	L-GN/BK	671	Power Window Motor Right Rear Down Control	I	—
8	2.5	RD/WH	1340	Battery Positive Voltage	I	—

S135 Rollover Protection Disable Switch



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13548426

Service Connector: 13225892

Description: 6-Way F 0.64 Micro-Quadlock Series (NA)

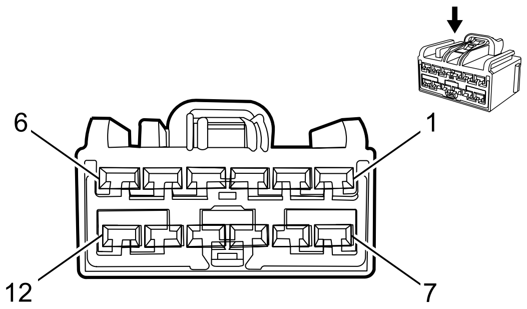
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

S135 Rollover Protection Disable Switch

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT/OG	371	Passenger IP Module Disable Switch Signal	I	—
2	0.35	D-BU/OG	7328	Passenger IP Module Disable Switch Low Reference	I	—
3 - 6	—	—	—	Not Occupied	—	—

T1 Accessory DC/AC Power Inverter Module (KI4)



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 10846814

Service Connector: 13580444

Description: 12-Way F 2.8 Kaizen Series (L-GY)

Terminal Part Information

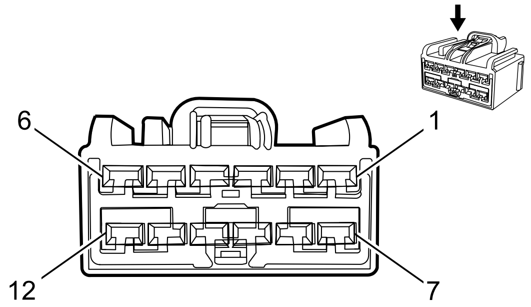
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575838	J-35616-35 (VT)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
II	13575839	J-35616-35 (VT)	J-38125-11A	7116-4112-02	14	C	D
III	13575839	J-35616-35 (VT)	J-38125-11A	Not Available	Not Available	Not Available	Not Available

T1 Accessory DC/AC Power Inverter Module (KI4)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	—	—	Not Occupied	—	—
2	1.5	BK	5683	120 V AC Phase A	III	—
3 - 5	—	—	—	Not Occupied	—	—
6	2.5	RD/GY	4140	Battery Positive Voltage	II	—
7	1.5	RD	5684	120 V AC Phase B	III	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.5	BARE	514	Low Reference	I	—
11	2.5	BK	1050	Ground	II	—

12	0.35	D-BU/BN	6807	DC To AC Inverter Control	I	—

T1 Accessory DC/AC Power Inverter Module (KI5)



Connector Part Information

Harness Type: Power Inverter Module Jumper

OEM Connector: 10846814

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 2.8 Kaizen Series (L-GY)

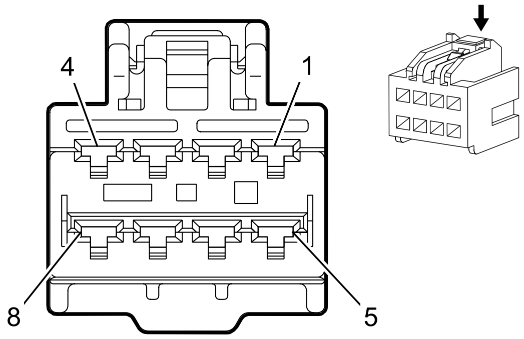
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

T1 Accessory DC/AC Power Inverter Module (KI5)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	1.5	BK	5683	120 V AC Phase A	I	—
4 - 5	—	—	—	Not Occupied	—	—
6	2.5	RD/GY	4140	Battery Positive Voltage	I	—
7	1.5	RD	5684	120 V AC Phase B	I	—
8 - 9	—	—	—	Not Occupied	—	—
10	0.35	BARE	514	Low Reference	I	—
11	2.5	BK	1050	Ground	I	—
12	0.35	D-BU/BN	6807	DC To AC Inverter Control	I	—

T3 Audio Amplifier X1 (UQA/UQG with D07)



Connector Part Information

Harness Type: Body

OEM Connector: 15491286

Service Connector: 13580111

Description: 8-Way F 2.8 Series (BK)

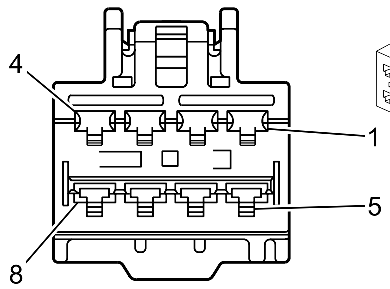
Terminal Part Information

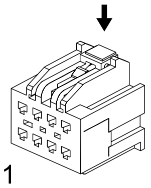
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

T3 Audio Amplifier X1 (UQA/UQG with D07)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	D-BU/GY	346	Left/Rear Subwoofer Speaker Control (+)	I	—
2	1	YE	200	Right Front Speaker Control (+) (1)	I	—
3	1	D-BU	201	Left Front Speaker Control (+) (1)	I	—
4	2.5	RD/YE	3740	Battery Positive Voltage	I	—
5	2.5	GY/BK	315	Right Subwoofer Speaker (-) Low Reference	I	—
6	1	YE/BK	117	Right Front Speaker Signal (-) (1)	I	—
7	1	BN/D-BU	118	Left Front Speaker Signal (-) (1)	I	—
8	2.5	BK	2550	Ground	I	—

T3 Audio Amplifier X1 (UQA/UQG without D07)





Connector Part Information

Harness Type: Body

OEM Connector: 15491289

Service Connector: 19115652

Description: 8-Way F 2.8 Series (L-GY)

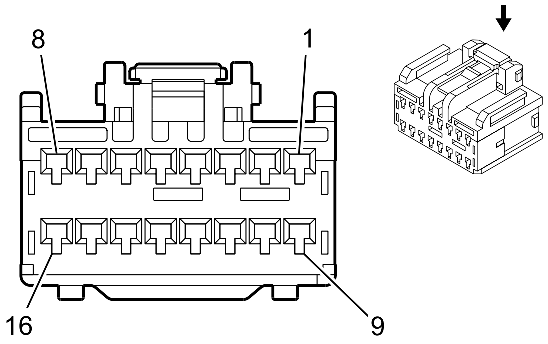
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required

T3 Audio Amplifier X1 (UQA/UQG without D07)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	2.5	YE	200	Right Front Speaker Control (+) (1)	I	—
2	—	—	—	Not Occupied	—	—
3	2.5	D-BU	201	Left Front Speaker Control (+) (1)	I	—
4	2.5	RD/YE	3740	Battery Positive Voltage	I	—
5	2.5	YE/BK	117	Right Front Speaker Signal (-) (1)	I	—
6	—	—	—	Not Occupied	—	—
7	2.5	BN/D-BU	118	Left Front Speaker Signal (-) (1)	I	—
8	2.5	BK	2550	Ground	I	—

T3 Audio Amplifier X2



Connector Part Information

Harness Type: Body

OEM Connector: 15489823

Service Connector: 15134091

Description: 16-Way F 1.5 Series (BK)

Terminal Part Information

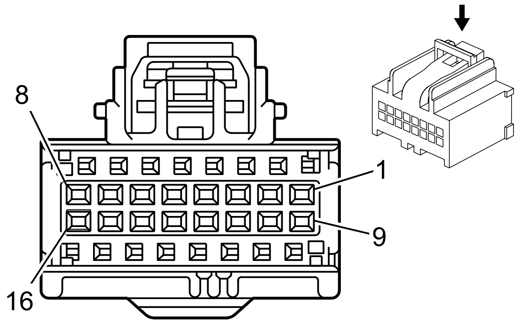
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575790	J-35616-2A (GY)	J-38125-553	15496302	24	2	A

T3 Audio Amplifier X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 3	—	—	—	Not Occupied	—	—
4	0.75	BN/L-GN	1852	Right Front Tweeter Speaker Control (+)	I	—
5	0.75	YE/D-BU	1856	Left Front Tweeter Speaker Control (+)	I	—
6	1	WH	46	Right Rear Speaker Control (+)	I	—
7	1	L-GN	199	Left Rear Speaker Control (+)	I	—
8 - 11	—	—	—	Not Occupied	—	—
12	0.75	VT/BN	1952	Right Front Tweeter Speaker (-) Low Reference	I	—
13	0.75	YE/GY	1956	Left Front Tweeter Speaker (-) Low Reference	I	—
14	1	D-BU/BK	115	Right Rear Speaker Signal (-)	I	—

15	1	L-GN/BK	116	Left Rear Speaker Signal (-)	I	—
16	—	—	—	Not Occupied	—	—

T3 Audio Amplifier X3



Connector Part Information

Harness Type: Body

OEM Connector: 15491285

Service Connector: 15136073

Description: 16-Way F Kaizen 64 Series (BK)

Terminal Part Information

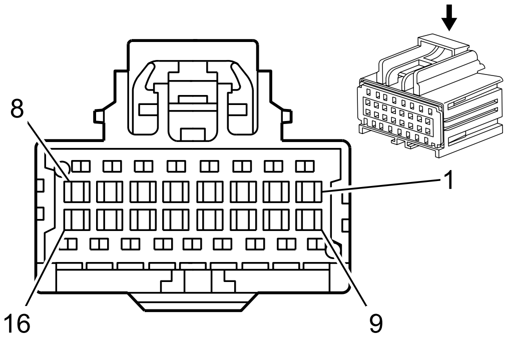
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575845	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P
II	13579945	J-35616-64B (LT BU)	J-38125-215A	Not Available	Not Available	Not Available	Not Available

T3 Audio Amplifier X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	L-GN	5060	Low Speed GMLAN Serial Data	II	—
2	0.35	VT/D-BU	6091	Crankshaft Position Sensor Replicated Signal	I	—
3	—	—	—	Not Occupied	—	—
4	0.35	L-GN/BN	3005	Noise Reduction Microphone 1 Signal	I	—
5	0.35	D-BU/YE	3006	Noise Reduction Microphone 2 Signal	I	—
6	0.35	GY/D-BU	3007	Noise Reduction Microphone 3 Signal	I	—
7 - 11	—	—	—	Not Occupied	—	—
12	0.35	L-GN/BK	3008	Noise Reduction Microphone 1 Low Reference	I	—

13	0.35	D-BU/BK	3009	Noise Reduction Microphone 2 Low Reference	I	—
14	0.35	GY/BN	3010	Noise Reduction Microphone 3 Low Reference	I	—
15 - 16	—	—	—	Not Occupied	—	—

T3 Audio Amplifier X4



Connector Part Information

Harness Type: Body

OEM Connector: 15466054

Service Connector: 15136074

Description: 16-Way F 0.64 Kaizen Series (BN)

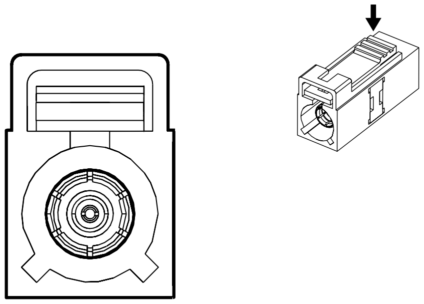
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575845	J-35616-64B (LT BU)	J-38125-215A	SAIT-A03T-M064	23	P	P

T3 Audio Amplifier X4

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
3	0.5	WH/L-GN	3997	MOST Serial Data (-)	I	—
4	0.5	GY/VT	3998	MOST Serial Data (+)	I	—
5	0.5	YE	3997	MOST Serial Data (-)	I	—
6	0.5	L-GN	3998	MOST Serial Data (+)	I	—
7 - 13	—	—	—	Not Occupied	—	—
14	0.35	WH/VT	3999	MOST Control	I	—
15 - 16	—	—	—	Not Occupied	—	—

T4G Cellular Phone, Navigation, and Digital Radio Antenna X4 (U2K or U2M)



Connector Part Information

Harness Type: Roof Antenna COAX

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1–Way COAX (TN)

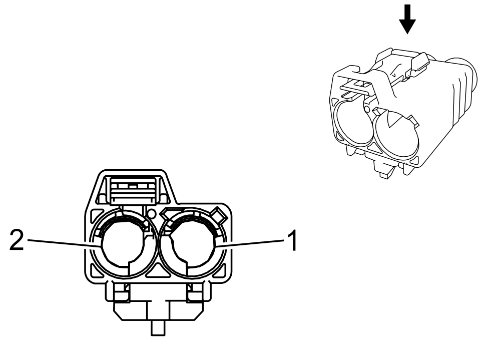
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

T4G Cellular Phone, Navigation, and Digital Radio Antenna X4 (U2K or U2M)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	COAX	—	Coaxial Antenna XM Signal	I	—

T4G Cellular Phone, Navigation, and Digital Radio Antenna X5 (UE1 without CV3)



Connector Part Information

Harness Type: Roof Antenna COAX

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 2–Way COAX (PU)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

T4G Cellular Phone, Navigation, and Digital Radio Antenna X5 (UE1 without CV3)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	—	COAX	—	Coaxial Antenna Cell/GPS combined Signal	I	—
2	—	COAX	—	Coaxial Antenna Cell Phone Signal	I	—

T4M Radio Antenna

–

Connector Part Information

Harness Type: Antenna Jumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 1–Way Coax Type

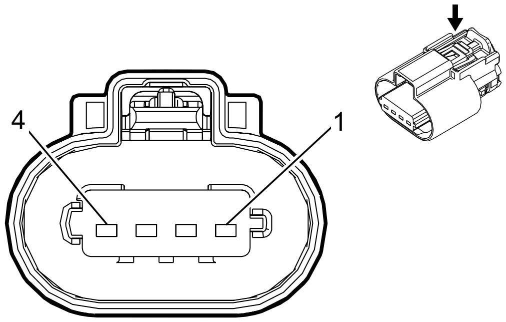
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

T4M Radio Antenna

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
–	–	–	6001	Antenna RF Signal	I	-

T8A Ignition Coil 1 (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13863211

Service Connector: 19301722

Description: 4-Way F 150 MX Series, Sealed (BK)

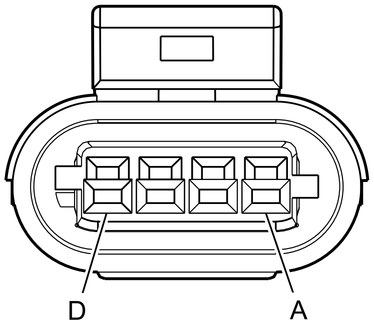
Terminal Part Information

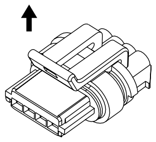
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

T8A Ignition Coil 1 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	350	Ground	I	—
2	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
3	0.5	D-BU/VT	2121	Ignition Control (1)	I	—
4	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	I	—

T8A Ignition Coil 1 (L96/LC8)





Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15439568

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 GT Series, Sealed (BK)

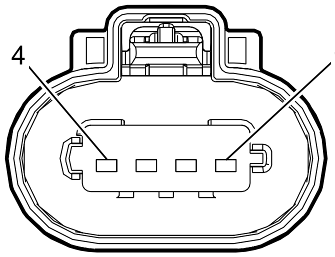
Terminal Part Information

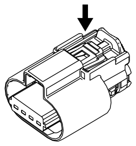
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

T8A Ignition Coil 1 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	BK	151	Signal Ground	I	—
B	0.5	BN	2129	Ignition Control Low Reference Bank 1	I	—
C	0.5	PU	2121	Ignition Control (1)	I	—
D	0.8	PK	39	Run/Crank Ignition 1 Voltage	I	—

T8B Ignition Coil 2 (1500)





Connector Part Information

Harness Type: Engine

OEM Connector: 13863211

Service Connector: 19301722

Description: 4-Way F 150 MX Series, Sealed (BK)

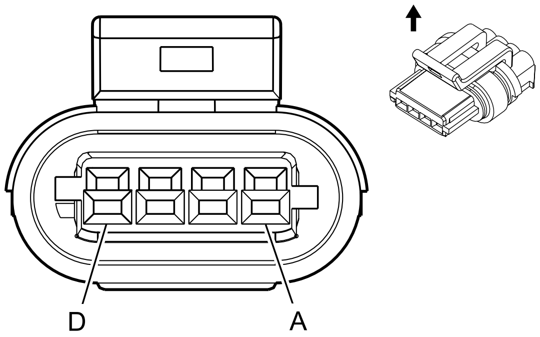
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

T8B Ignition Coil 2 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	350	Ground	I	—
2	0.5	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
3	0.5	D-BU/WH	2122	Ignition Control (2)	I	—
4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	I	—

T8B Ignition Coil 2 (L96/LC8)



Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15439568

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 GT Series, Sealed (BK)

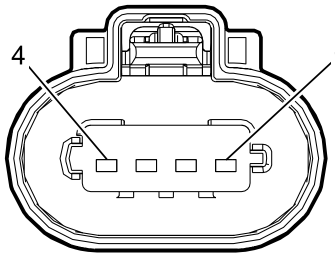
Terminal Part Information

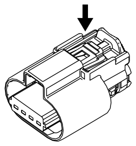
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

T8B Ignition Coil 2 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	BK	151	Signal Ground	I	—
B	0.5	BN	2129	Ignition Control Low Reference Bank 1	I	—
C	0.5	RD	2127	Ignition Control (7)	I	—
D	0.8	PK	39	Run/Crank Ignition 1 Voltage	I	—

T8C Ignition Coil 3 (1500)





Connector Part Information

Harness Type: Engine

OEM Connector: 13863211

Service Connector: 19301722

Description: 4-Way F 150 MX Series, Sealed (BK)

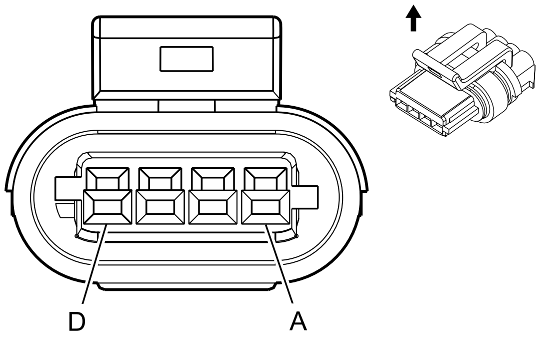
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

T8C Ignition Coil 3 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	350	Ground	I	—
2	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
3	0.5	L-GN/D-BU	2123	Ignition Control (3)	I	—
4	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	I	—

T8C Ignition Coil 3 (L96/LC8)



Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15439568

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 GT Series, Sealed (BK)

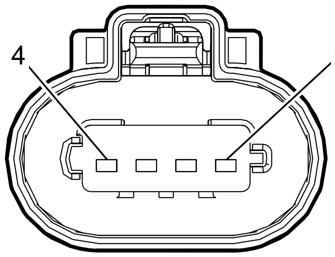
Terminal Part Information

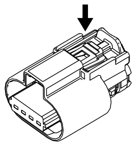
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

T8C Ignition Coil 3 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	BK	151	Signal Ground	I	—
B	0.5	BN	2129	Ignition Control Low Reference Bank 1	I	—
C	0.5	L-BU	2123	Ignition Control (3)	I	—
D	0.8	PK	39	Run/Crank Ignition 1 Voltage	I	—

T8D Ignition Coil 4 (1500)





Connector Part Information

Harness Type: Engine

OEM Connector: 13863211

Service Connector: 19301722

Description: 4-Way F 150 MX Series, Sealed (BK)

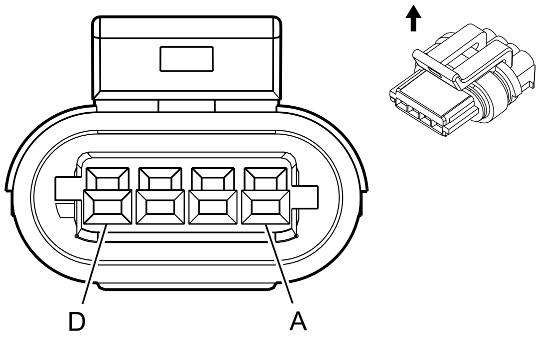
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

T8D Ignition Coil 4 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	350	Ground	I	—
2	0.5	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
3	0.5	YE/D-BU	2124	Ignition Control (4)	I	—
4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	I	—

T8D Ignition Coil 4 (L96/LC8)



Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15439568

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 GT Series, Sealed (BK)

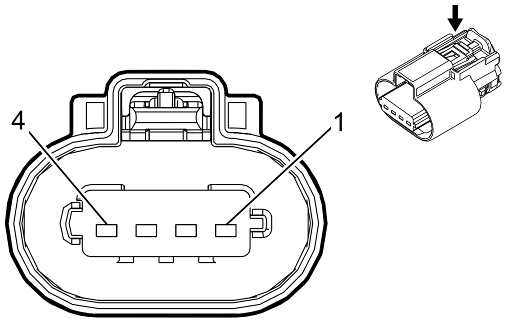
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

T8D Ignition Coil 4 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	BK	151	Signal Ground	I	—
B	0.5	BN	2129	Ignition Control Low Reference Bank 1	I	—
C	0.5	D-GN	2125	Ignition Control (5)	I	—
D	0.8	PK	39	Run/Crank Ignition 1 Voltage	I	—

T8E Ignition Coil 5 (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13863211

Service Connector: 19301722

Description: 4-Way F 150 MX Series, Sealed (BK)

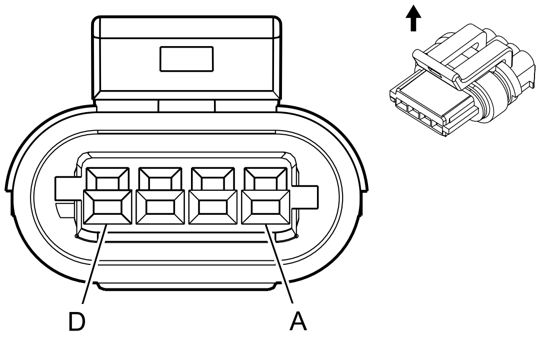
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

T8E Ignition Coil 5 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	350	Ground	I	—
2	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
3	0.5	D-BU/GY	2125	Ignition Control (5)	I	—
4	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	I	—

T8E Ignition Coil 5 (L96/LC8)



Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15439568

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 GT Series, Sealed (BK)

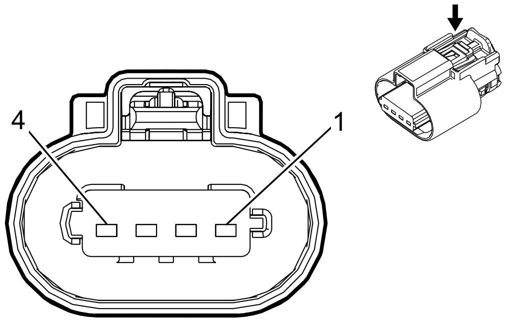
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

T8E Ignition Coil 5 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	BK	151	Signal Ground	I	—
B	0.5	BN	2129	Ignition Control Low Reference Bank 1	I	—
C	0.5	D-GN	2125	Ignition Control (5)	I	—
D	0.8	PK	39	Run/Crank Ignition 1 Voltage	I	—

T8F Ignition Coil 6 (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13863211

Service Connector: 19301722

Description: 4-Way F 150 MX Series, Sealed (BK)

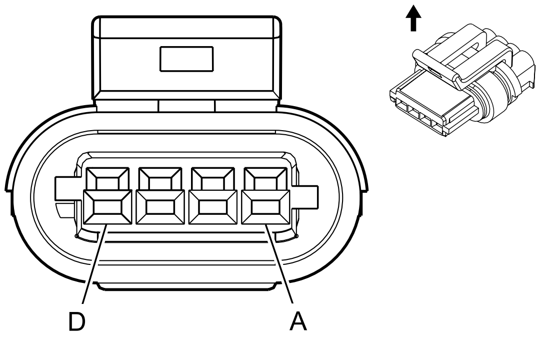
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

T8F Ignition Coil 6 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	350	Ground	I	—
2	0.5	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
3	0.5	BN/D-BU	2126	Ignition Control (6)	I	—
4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	I	—

T8F Ignition Coil 6 (L96/LC8)



Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15439568

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 GT Series, Sealed (BK)

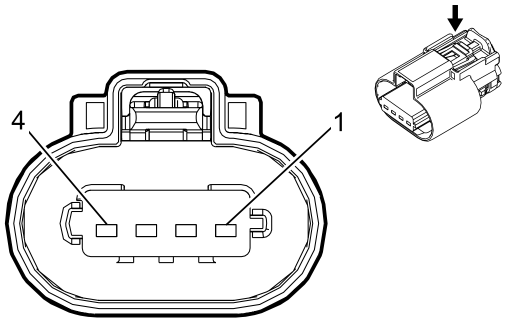
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

T8F Ignition Coil 6 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	BK	151	Signal Ground	I	—
B	0.5	BN	2129	Ignition Control Low Reference Bank 1	I	—
C	0.5	L-BU	2123	Ignition Control (3)	I	—
D	0.8	PK	39	Run/Crank Ignition 1 Voltage	I	—

T8G Ignition Coil 7 (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13863211

Service Connector: 19301722

Description: 4-Way F 150 MX Series, Sealed (BK)

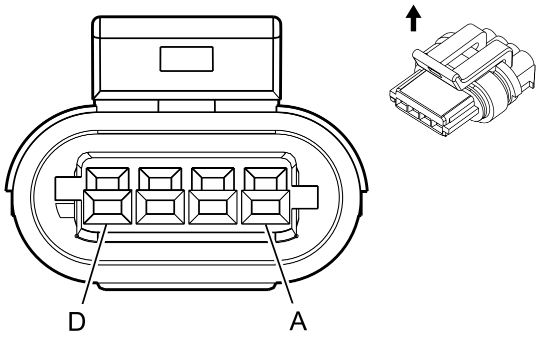
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

T8G Ignition Coil 7 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	350	Ground	I	—
2	0.5	BK/D-BU	2129	Ignition Control Low Reference Bank 1	I	—
3	0.5	L-GN/GY	2127	Ignition Control (7)	I	—
4	0.75	VT/D-BU	5291	Powertrain Main Relay Fused Supply (2)	I	—

T8G Ignition Coil 7 (L96/LC8)



Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15439568

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 GT Series, Sealed (BK)

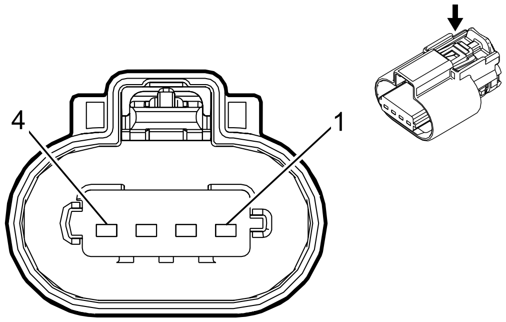
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

T8G Ignition Coil 7 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	BK	151	Signal Ground	I	—
B	0.5	BN	2129	Ignition Control Low Reference Bank 1	I	—
C	0.5	RD	2127	Ignition Control (7)	I	—
D	0.8	PK	39	Run/Crank Ignition 1 Voltage	I	—

T8H Ignition Coil 8 (1500)



Connector Part Information

Harness Type: Engine

OEM Connector: 13863211

Service Connector: 19301722

Description: 4-Way F 150 MX Series, Sealed (BK)

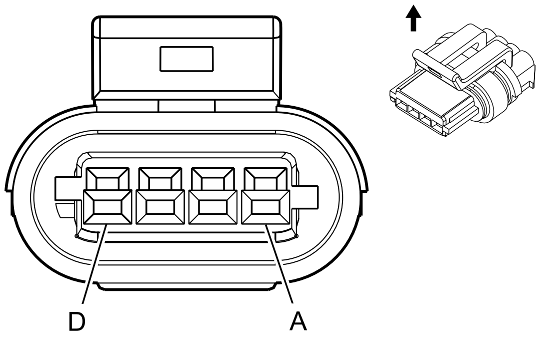
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

T8H Ignition Coil 8 (1500)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.75	BK	350	Ground	I	—
2	0.5	BK/GY	2130	Ignition Control Low Reference Bank 2	I	—
3	0.5	VT/WH	2128	Ignition Control (8)	I	—
4	0.75	VT/D-BU	5292	Powertrain Main Relay Fused Supply (3)	I	—

T8H Ignition Coil 8 (L96/LC8)



Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15439568

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 GT Series, Sealed (BK)

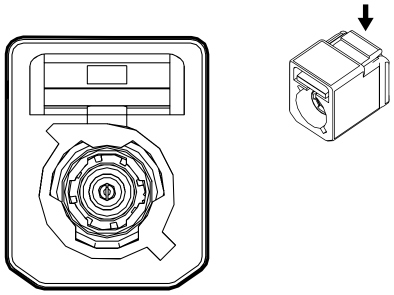
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

T8H Ignition Coil 8 (L96/LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.8	BK	151	Signal Ground	I	—
B	0.5	BN	2129	Ignition Control Low Reference Bank 1	I	—
C	0.5	PU	2121	Ignition Control (1)	I	—
D	0.8	PK	39	Run/Crank Ignition 1 Voltage	I	—

T15 Navigation Antenna Signal Splitter X1 (IO6 with UE1)



Connector Part Information

Harness Type: Headliner

OEM Connector: 13581715

Service Connector: Service by Cable Assembly – See Part Catalog

Description: 1-Way F Coax Type (GY)

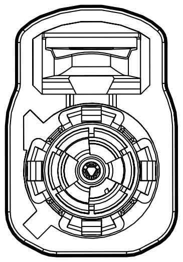
Terminal Part Information

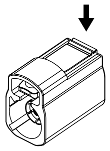
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

T15 Navigation Antenna Signal Splitter X1 (IO6 with UE1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
–	–	–	6242	Coaxial Antenna GPS Signal	I	–

T15 Navigation Antenna Signal Splitter X2 (IO6 with UE1)





Connector Part Information

Harness Type: Instrument Panel COAX

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1–Way COAX (PK)

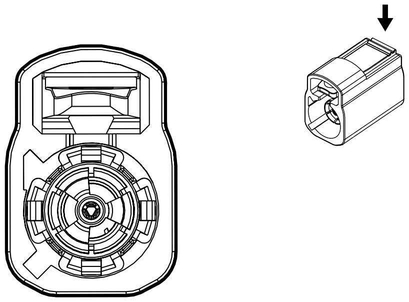
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

T15 Navigation Antenna Signal Splitter X2 (IO6 with UE1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	COAX	—	Coaxial Antenna Cell/GPS combined Signal	I	—

T15 Navigation Antenna Signal Splitter X3 (IO6 with UE1)



Connector Part Information

Harness Type: Instrument Panel COAX

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1–Way COAX (BU)

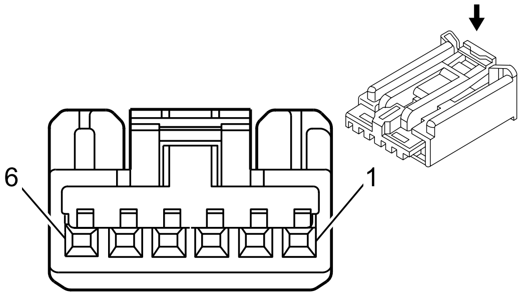
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

T15 Navigation Antenna Signal Splitter X3 (IO6 with UE1)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	COAX	—	Coaxial Antenna GPS Signal	I	—

T22 Mobile Device Wireless Charger Module



Connector Part Information

Harness Type: Power Mat Jumper

OEM Connector: 13595475

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 Series (NA)

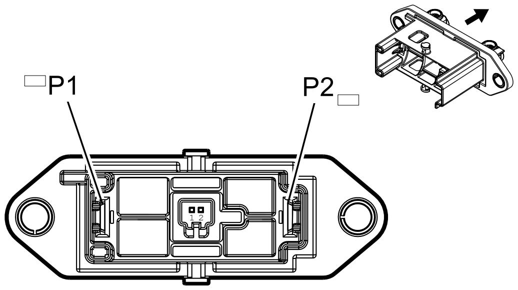
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

T22 Mobile Device Wireless Charger Module

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	VT/YE	43	Accessory Ignition Voltage	I	—
2	0.75	BK	1050	Ground	I	—
3	0.35	L-GN	4512	Wireless Charging System Charge Indicator Control	I	—
4 - 6	—	—	—	Not Occupied	—	—

X21 Manual Service Disconnect Receptacle



Connector Part Information

Harness Type: High Voltage Battery Manual Service Disconnect

OEM Connector: 33150372

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F MSD 125 Receptacle (BK)

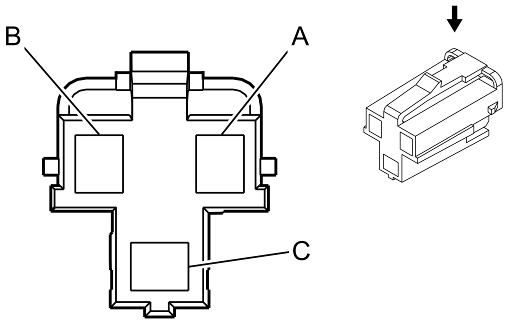
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required

X21 Manual Service Disconnect Receptacle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 2	—	—	—	Not Occupied	—	—
P1	0	—	3970	High Voltage Battery 4 (+)	I	—
P2	0	—	3970	High Voltage Battery 4 (+)	I	—

X80D Accessory Power Receptacle - Center Console Compartment



Connector Part Information

Harness Type: Floor Console

OEM Connector: 12176836

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 280 Metri-Pack Series (GY)

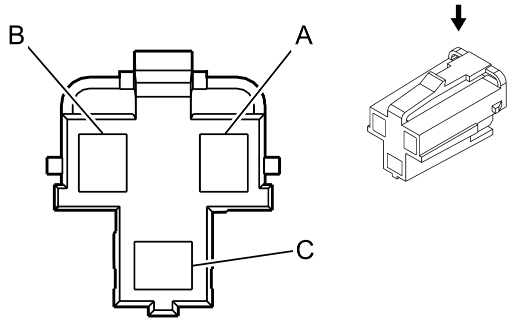
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X80D Accessory Power Receptacle - Center Console Compartment

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	VT/YE	143	Accessory Ignition Voltage	I	—
B	—	—	—	Not Occupied	—	—
C	1.5	BK	1050	Ground	I	—

X80E Accessory Power Receptacle - Center Seat (except D07)



Connector Part Information

Harness Type: Center Seat

OEM Connector: 12176836

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 280 Metri-Pack Series (GY)

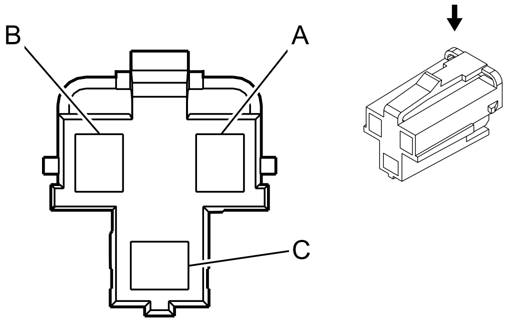
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X80E Accessory Power Receptacle - Center Seat (except D07)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	RD/L-BU	840	Battery Positive Voltage	I	—
B	—	—	—	Not Occupied	—	—
C	1.5	BK	1250	Ground	I	—

X80G Accessory Power Receptacle - Instrument Panel



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 12176836

Service Connector: 19257374

Description: 3-Way F 280 Metri-Pack Series (GY)

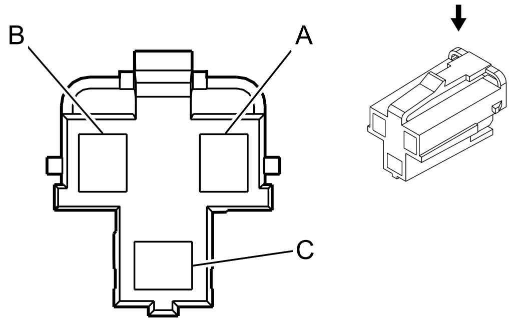
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X80G Accessory Power Receptacle - Instrument Panel

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	RD/BN	4240	Battery Positive Voltage	I	—
B	—	—	—	Not Occupied	—	—
C	1.5	BK	1050	Ground	I	—

X80J Accessory Power Receptacle - Instrument Panel 1



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 12176836

Service Connector: 19257374

Description: 3-Way F 280 Metri-Pack Series (GY)

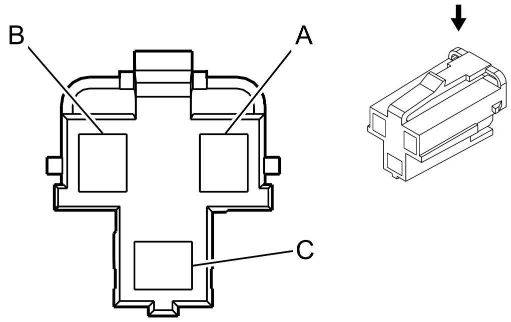
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X80J Accessory Power Receptacle - Instrument Panel 1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	RD/WH	1040	Battery Positive Voltage	I	—
B	—	—	—	Not Occupied	—	—
C	1.5	BK	1050	Ground	I	—

X80K Accessory Power Receptacle - Instrument Panel 2



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 12176836

Service Connector: 19257374

Description: 3-Way F 280 Metri-Pack Series (GY)

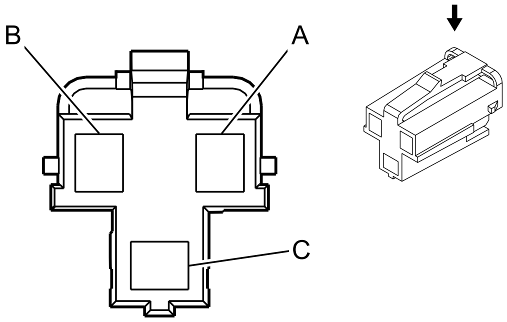
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X80K Accessory Power Receptacle - Instrument Panel 2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	RD/BN	4240	Battery Positive Voltage	I	—
B	—	—	—	Not Occupied	—	—
C	1.5	BK	1050	Ground	I	—

X80L Accessory Power Receptacle - Center Console Rear



Connector Part Information

Harness Type: Floor Console

OEM Connector: 12176836

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 280 Metri-Pack Series (GY)

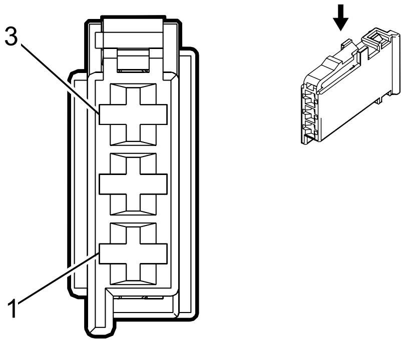
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X80L Accessory Power Receptacle - Center Console Rear

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1.5	VT/YE	243	Accessory Ignition Voltage	I	—
B	—	—	—	Not Occupied	—	—
C	1.5	BK	1050	Ground	I	—

X81B Accessory Power Receptacle - 220V AC X1



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 10865339

Service Connector: 93186706

Description: 3-Way F 1.6 Micro-Timer Series (BK)

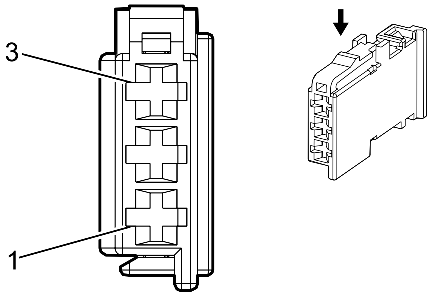
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

X81B Accessory Power Receptacle - 220V AC X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/BN	300	Run Ignition 3 Voltage	I	—
2	—	—	—	Not Occupied	—	—
3	1.5	BK	5683	120 V AC Phase A	I	—

X81B Accessory Power Receptacle - 220V AC X2



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13648774

Service Connector: 13583924

Description: 3-Way F 1.6 Timer Series, Sealed (GY)

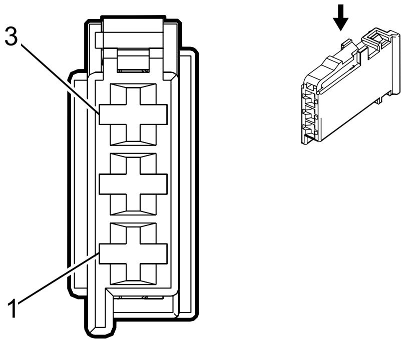
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

X81B Accessory Power Receptacle - 220V AC X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/BN	6807	DC To AC Inverter Control	I	—
2	—	—	—	Not Occupied	—	—
3	1.5	RD	5684	120 V AC Phase B	I	—

X81 Accessory Power Receptacle - 110V AC X1



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 10865339

Service Connector: 93186706

Description: 3-Way F 1.6 Micro-Timer Series (BK)

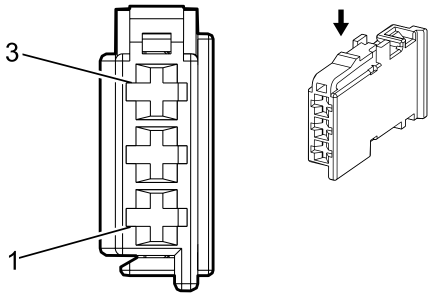
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

X81 Accessory Power Receptacle - 110V AC X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/BN	300	Run Ignition 3 Voltage	I	—
2	—	—	—	Not Occupied	—	—
3	1.5	BK	5683	120 V AC Phase A	I	—

X81 Accessory Power Receptacle - 110V AC X2



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13648774

Service Connector: 13583924

Description: 3-Way F 1.6 Timer Series, Sealed (GY)

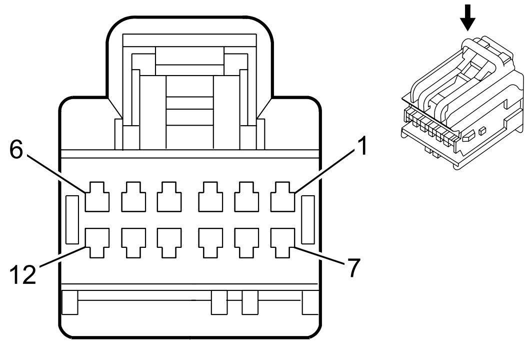
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required

X81 Accessory Power Receptacle - 110V AC X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	D-BU/BN	6807	DC To AC Inverter Control	I	—
2	—	—	—	Not Occupied	—	—
3	1.5	RD	5684	120 V AC Phase B	I	—

X82 Audio/Video Input Adapter X1 (U42)



Connector Part Information

Harness Type: Floor Console

OEM Connector: 13551678

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 0.64 Series (BK)

Terminal Part Information

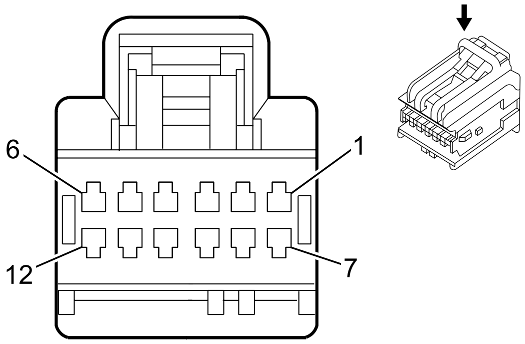
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

X82 Audio/Video Input Adapter X1 (U42)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	2550	Ground	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	L-GN/WH	3355	Left Rear Seat Audio Headphone Signal	I	—
4	0.35	WH	2058	Right Auxiliary Audio Signal (1)	I	—
5	0.35	YE	2059	Left Auxiliary Audio Signal (1)	I	—
6	0.35	YE	2056	Auxiliary Video High Signal	I	—
7	0.75	RD/VT	340	Battery Positive Voltage	I	—
8	—	—	—	Not Occupied	—	—
9	0.35	BN/GY	3357	Right Rear Seat Audio Headphone Signal	I	—

10	0.35	D-BU/VT	3356	Rear Seat Audio Headphone Common Signal	I	—
11	0.35	BN	3374	Auxiliary Audio Common Signal (2)	I	—
12	0.5	BARE	2057	Auxiliary Video Low Signal	I	—

X82 Audio/Video Input Adapter X2 (U42)



Connector Part Information

Harness Type: Center Console

OEM Connector: 31410-1120

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 0.64 Series, Sealed (BK)

Terminal Part Information

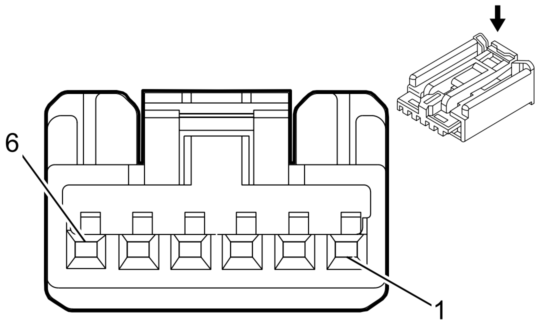
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

X82 Audio/Video Input Adapter X2 (U42)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	BK	2550	Ground	I	—
2	—	—	—	Not Occupied	—	—
3	0.35	—	3355	Left Rear Seat Audio Headphone Signal	I	—
4	0.35	WH	2058	Right Auxiliary Audio Signal (1)	I	—
5	0.35	YE	2059	Left Auxiliary Audio Signal (1)	I	—
6	0.35	YE	2056	Auxiliary Video High Signal	I	—
7	0.75	RD/VT	340	Battery Positive Voltage	I	—
8	—	—	—	Not Occupied	—	—

9	0.35	BN/GY	3357	Right Rear Seat Audio Headphone Signal	I	—
10	0.35	—	3356	Rear Seat Audio Headphone Common Signal	I	—
11	0.35	BN	3374	Auxiliary Audio Common Signal (2)	I	—
12	0.5	—	2057	Auxiliary Video Low Signal	I	—

X83 Auxiliary Audio Input



Connector Part Information

Harness Type: Floor Console

OEM Connector: 13595476

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 0.64 Kaizen Series (BK)

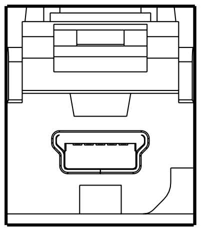
Terminal Part Information

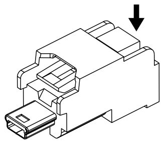
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

X83 Auxiliary Audio Input

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	GY	5839	Left Auxiliary Audio Signal (2)	I	—
2	0.35	L-GN	5841	Right Auxiliary Audio Signal (2)	I	—
3	0.35	VT	5843	Auxiliary Audio Common Signal	I	—
4	0.35	BK	2550	Ground	I	—
5	0.35	D-BU	2060	Auxiliary Detection Signal	I	—
6	0.75	RD/VT	340	Battery Positive Voltage	I	—

X83 Auxiliary Audio Input X2





Connector Part Information

Harness Type: Console USB

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: 1-Way USB Cable Connector (BK)

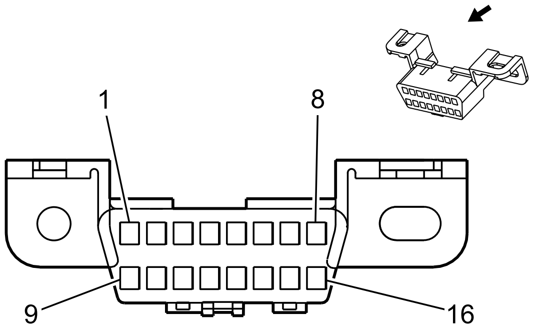
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

X83 Auxiliary Audio Input X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
-	-	USB	-	USB Serial Data	I	-

X84 Data Link Connector



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 12110250

Service Connector: 12110250

Description: 16-Way F 150 Metri-Pack Series (BK)

Terminal Part Information

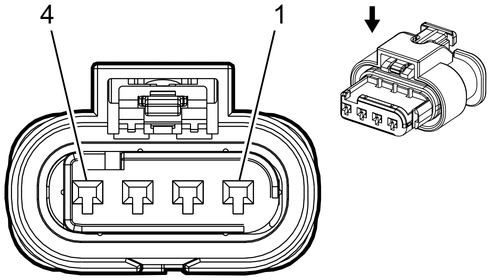
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575725	J-35616-14 (GN)	J-38125-12A	12129484	4	E	A
II	13575725	J-35616-14 (GN)	J-38125-12A	12129484	4	E	C

X84 Data Link Connector

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	L-GN	5060	Low Speed GMLAN Serial Data	II	—
2 - 3	—	—	—	Not Occupied	—	—
4	0.5	BK	1050	Ground	II	—
5	0.75	BK/WH	1851	Signal Ground	I	—
6	0.5	D-BU	2500	High Speed GMLAN Serial Data (+) (1)	II	—
7 - 11	—	—	—	Not Occupied	—	—
12	0.5	D-BU/YE	6105	High Speed GMLAN Serial Data (+) (2)	II	—
13	0.5	WH	6106	High Speed GMLAN Serial Data (-) (2)	II	—

14	0.5	WH	2501	High Speed GMLAN Serial Data (-) (1)	II	—
15	—	—	—	Not Occupied	—	—
16	0.5	RD/WH	640	Battery Positive Voltage	II	—

X85 Steering Wheel Air Bag Coil X3



Connector Part Information

Harness Type: Body

OEM Connector: 13854531

Service Connector: 13586137

Description: 4-Way F 1.2 Series, Sealed (YE)

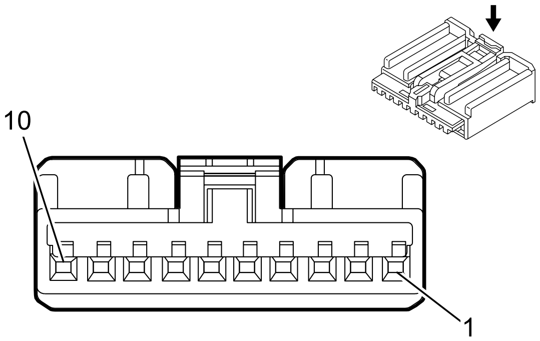
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required

X85 Steering Wheel Air Bag Coil X3

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.35	OG/VT	3021	Steering Wheel Module Stage 1 High Control	I	—
2	0.35	BN/OG	3020	Steering Wheel Module Stage 1 Low Control	I	—
3	0.35	OG/L-GN	3023	Steering Wheel Module Stage 2 High Control	I	—
4	0.35	WH/OG	3022	Steering Wheel Module Stage 2 Low Control	I	—

X85 Steering Wheel Air Bag Coil X1



Connector Part Information

Harness Type:

OEM Connector: AIT2PB-10-1AK

Service Connector: 13576634

Description: 10 F 0.64 Kaizen Series (BK)

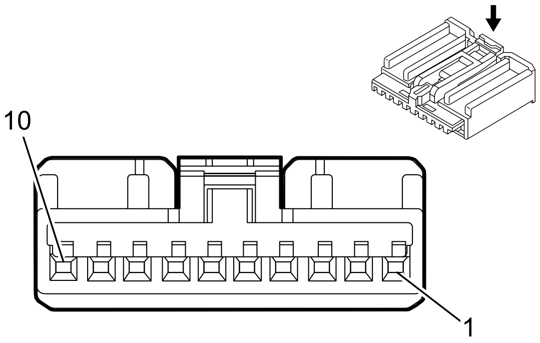
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

X85 Steering Wheel Air Bag Coil X1

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD/YE	3040	Battery Positive Voltage	I	-
2	0.5	GN	3894	Local Interconnect Network Bus 12	I	-
3	-	-	-	Not Occupied	-	-
4	0.5	GY/OG	5737	Adaptive Cruise Control Gap Up/Down Switch Signal	I	-
5	0.5	YE	6136	Supply Voltage	I	-
6	0.5	WH	1444	12 Volt Reference	I	-
7	-	-	-	Not Occupied	-	-
8	0.5	BN/YE	1884	Cruise Control Set/Coast/Resume/Accelerate Switch Signal	I	-
9	0.5	BK	1050	Ground	I	-
10	0.5	GN/WH	3287	Horn Switch Signal	I	-

X85 Steering Wheel Air Bag Coil X2



Connector Part Information

Harness Type: Steering Column

OEM Connector: AIT2PB-10-1AK

Service Connector: 13576634

Description: 10-Way F 0.64 Kaizen Series (BK)

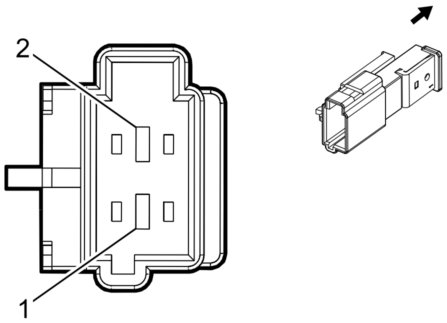
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

X85 Steering Wheel Air Bag Coil X2

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	RD	3040	Battery Positive Voltage	I	-
2	0.5	GN	3894	Local Interconnect Network Bus 12	I	-
3	0.5	BN/YE	1884	Cruise Control Set/Coast/Resume/Accelerate Switch Signal	I	-
4	0.5	GY/OG	5737	Adaptive Cruise Control Gap Up/Down Switch Signal	I	-
5	0.5	YE	6136	Supply Voltage	I	-
6	0.5	WH	1444	12 Volt Reference	I	-
7	0.5	GY/OG	5737	Adaptive Cruise Control Gap Up/Down Switch Signal	I	-
8	0.5	BN/YE	1884	Cruise Control Set/Coast/Resume/Accelerate Switch Signal	I	-
9	0.5	BK	1050	Ground	I	-
10	0.5	GN/WH	3287	Horn Switch Signal	I	-

X85 Steering Wheel Air Bag Coil X4 (UVD)



Connector Part Information

Harness Type: Steering Column

OEM Connector: 1563190-1

Service Connector: 13574780

Description: 2-Way M 1.6 Timer Series (BK)

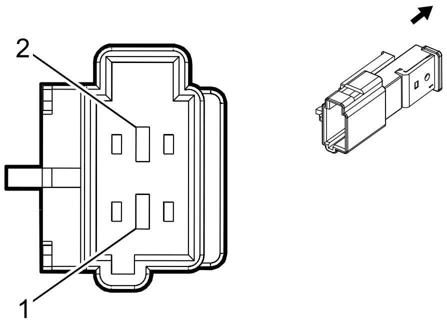
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

X85 Steering Wheel Air Bag Coil X4 (UVD)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/WH	1139	Run/Crank Ignition 1 Voltage	I	-
2	0.5	BK	1050	Ground	I	-

X85 Steering Wheel Air Bag Coil X5 (UVD)



Connector Part Information

Harness Type: Steering Column

OEM Connector: 1563190-1

Service Connector: 13574780

Description: 2-Way M 1.6 Timer Series (BK)

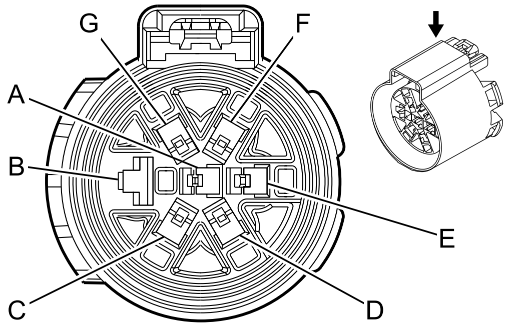
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

X85 Steering Wheel Air Bag Coil X5 (UVD)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	VT/WH	1139	Run/Crank Ignition 1 Voltage	I	-
2	0.5	BK	1050	Ground	I	-

X88 Trailer Connector (UY2)



Connector Part Information

Harness Type: Backup Alarm Jumper

OEM Connector: 13857223

Service Connector: Service by Harness - See Part Catalog

Description: 7-Way F 280 Metri-Pack, 630 Series, Sealed (BK)

Terminal Part Information

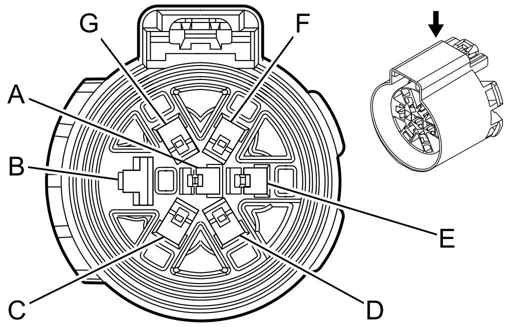
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X88 Trailer Connector (UY2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	WH/L-GN	1624	Trailer Backup Lamp Control	II	—
	1	L-GN	1624			—
B	5	WH	22	Trailer Ground	I	—
	6	WH	22			—
C	2.5	D-BU	47	Trailer Auxiliary Control	II	—
	3	D-BU	47			—
D	0.75	L-GN/VT	1619	Right Rear Trailer Stop/Turn Lamp Control	II	—
	0.8	D-GN	1619			—

E	3	RD/BK	742	Battery Positive Voltage	II	—
	4	RD/L-GN	742			—
F	1	BN	2109	Trailer Park Lamp Control	II	—
	1.5	GY/BN	2109			—
G	0.75	YE/GY	1618	Left Rear Trailer Stop/Turn Lamp Control	II	—
	0.8	YE	1618			—

X88 Trailer Connector (Z82 without 8S3 or UY2)



Connector Part Information

Harness Type: Chassis

OEM Connector: 13857223

Service Connector: 13583927

Description: 7-Way F 280 Metri-Pack, 630 Series, Sealed (BK)

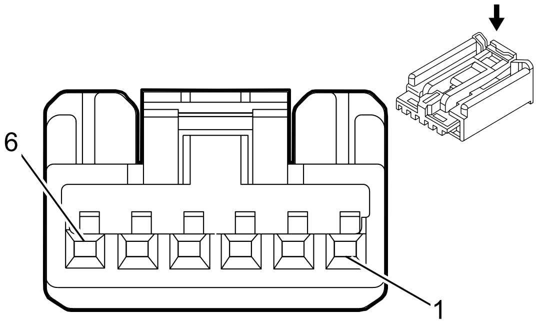
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X88 Trailer Connector (Z82 without 8S3 or UY2)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.75	WH/L-GN	1624	Trailer Backup Lamp Control	II	—
B	5	WH	22	Trailer Ground	I	—
C	2.5	D-BU	47	Trailer Auxiliary Control	II	—
D	0.75	L-GN/VT	1619	Right Rear Trailer Stop/Turn Lamp Control	II	—
E	4	RD/L-GN	742	Battery Positive Voltage	II	—
F	1.5	GY/BN	2109	Trailer Park Lamp Control	II	—
G	0.75	YE/GY	1618	Left Rear Trailer Stop/Turn Lamp Control	II	—

X92 USB Receptacle



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13595476

Service Connector: 19167753

Description: 6-Way F 0.64 Kaizen Series (BK)

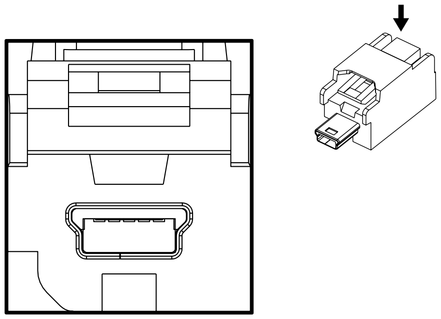
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-64B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

X92 USB Receptacle

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1 - 3	—	—	—	Not Occupied	—	—
4	0.35	BK	2550	Ground	I	—
5	—	—	—	Not Occupied	—	—
6	0.75	RD/VT	340	Battery Positive Voltage	I	—

X92 USB Receptacle X2 (D07)



Connector Part Information

Harness Type: Console USB

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: USB Cable Connector (GY)

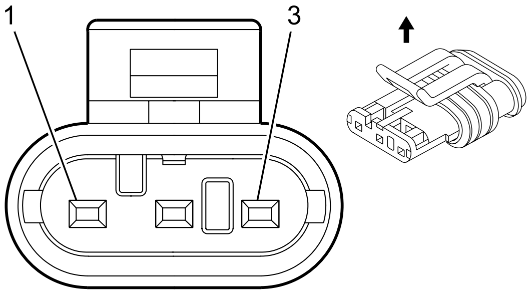
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

X92 USB Receptacle X2 (D07)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
—	—	USB	—	USB Serial Data	I	—

X96 Alternative Fuel System Data Connector (LC8)



Connector Part Information

Harness Type: CNG Instrument Panel

OEM Connector: 282087-1

Service Connector: Not Available

Description: 3-Way F 1.5 Series, Sealed (BK)

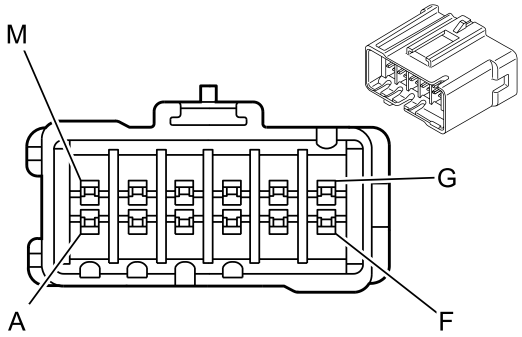
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-33 (YE)	J-38125-560	Not Available	Not Available	E	1

X96 Alternative Fuel System Data Connector (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
1	0.5	WH	—	Serial K	I	-
2	0.5	BK	—	Ground	I	-
3	0.5	RD	—	Battery Positive Voltage	I	-

JX200 Splice Pack



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15305291

Service Connector: 15305291

Description: 12-Way F 280 Metri-Pack Series (BK)

Terminal Part Information

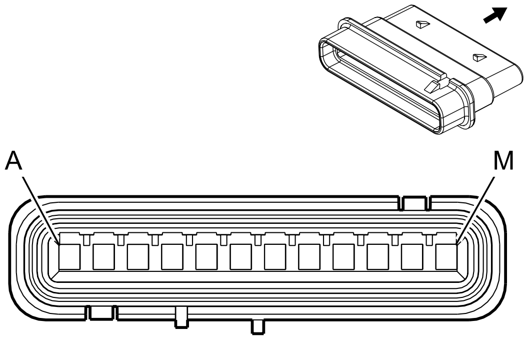
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575721	J-35616-4A (PU)	J-38125-553	12110844	13	C	A
II	13575721	J-35616-4A (PU)	J-38125-553	12110844	13	E	4
III	13575721	J-35616-4A (PU)	J-38125-553	12110844	13	E	A

JX200 Splice Pack

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	L-GN	5060	Low Speed GMLAN Serial Data	III	—
B - C	—	—	—	Not Occupied	—	—
D	0.35 0.5	L-GN L-GN	5060 5060	Low Speed GMLAN Serial Data	II III	— —
E	0.35	L-GN	5060	Low Speed GMLAN Serial Data	II	—
F	0.35 0.5	L-GN L-GN	5060 5060	Low Speed GMLAN Serial Data	II III	— —
G	0.5	L-GN	5060	Low Speed GMLAN Serial Data	III	—

	0.75	L-GN	5060		I	—
H	0.5	L-GN	5060	Low Speed GMLAN Serial Data	III	—
J	0.5	L-GN	5060	Low Speed GMLAN Serial Data	III	—
K	0.35	L-GN	5060	Low Speed GMLAN Serial Data	II	—
	0.5	L-GN	5060		III	—
L	0.5	L-GN	5060	Low Speed GMLAN Serial Data	III	—
M	0.5	L-GN	5060	Low Speed GMLAN Serial Data	III	—

JX102 Splice Pack - CNG Engine (LC8)



Connector Part Information

Harness Type: CNG Engine

OEM Connector: 12191905

Service Connector: 12167317

Description: 12-Way F 150 GT SPL Saver Series, Sealed (BK)

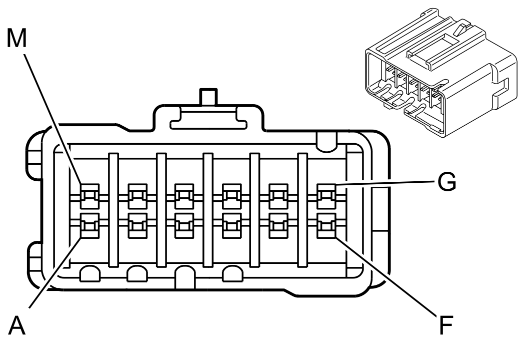
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13584446	J-35616-14 (GN)	J-38125-553	12191819	9	E	1
II	13578912	J-35616-14 (GN)	J-38125-553	12191819	9	2	1

JX102 Splice Pack - CNG Engine (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	TN/BK	—	High Speed GMLAN Serial Data (+) (1)	I	—
B	0.5	TN/BK	—	High Speed GMLAN Serial Data (+) (1)	II	—
C	0.8	TN/BK	—	High Speed GMLAN Serial Data (+) (1)	I	—
D	—	—	—	Not Occupied	—	—
E	0.5	TN	—	High Speed GMLAN Serial Data (-) (1)	I	—
F	0.5	TN	—	High Speed GMLAN Serial Data (-) (1)	II	—
G	G	TN	—	High Speed GMLAN Serial Data (-) (1)	I	—
H-J	—	—	—	Not Occupied	—	—
K	0.35	PU/BK	—	Primary Fuel Level Sensor Signal	I	—
L	0.5	PU/BK	—	Primary Fuel Level Sensor Signal	II	—
M	0.5	PU/BK	—	Primary Fuel Level Sensor Signal	I	—

JX300 Splice Pack - Body



Connector Part Information

Harness Type: Body

OEM Connector: 15305291

Service Connector: 15305291

Description: 12-Way F 280 Metri-Pack Series (BK)

Terminal Part Information

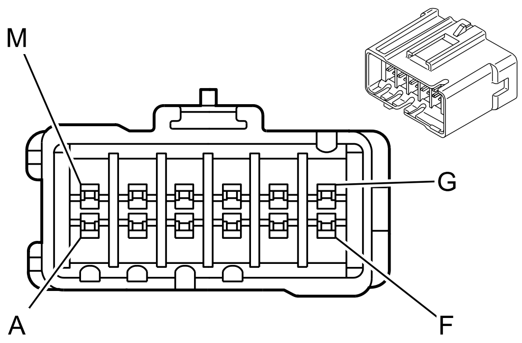
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13575721	J-35616-4A (PU)	J-38125-553	Not Required	Not Required	Not Required	Not Required
I	13575721	J-35616-4A (PU)	J-38125-553	Not Required	Not Required	Not Required	Not Required
I	13575721	J-35616-4A (PU)	J-38125-553	Not Required	Not Required	Not Required	Not Required

JX300 Splice Pack - Body

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5 0.5	— L-GN	5060 5060	Low Speed GMLAN Serial Data	I	— —
B - C	—	—	—	Not Occupied	—	—
D	0.35 0.35	L-GN —	5060 5060	Low Speed GMLAN Serial Data	I	— —
E	—	—	—	Not Occupied	—	—
F	0.35 0.35	L-GN —	5060 5060	Low Speed GMLAN Serial Data	I	— —

G	0.75	—	5060	Low Speed GMLAN Serial Data	I	—
	0.75	L-GN	5060			—
H	—	—	—	Not Occupied	—	—
J	0.5	—	5060	Low Speed GMLAN Serial Data	I	—
	0.5	L-GN	5060			—
K	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
	0.5	—	5060			—
L	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
	0.5	—	5060			—
M	0.5	—	5060	Low Speed GMLAN Serial Data	I	—
	0.5	L-GN	5060			—

JX200 Splice Pack - Instrument Panel



Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 15305291

Service Connector: 15305291

Description: 12-Way F 280 Metri-Pack Series (BK)

Terminal Part Information

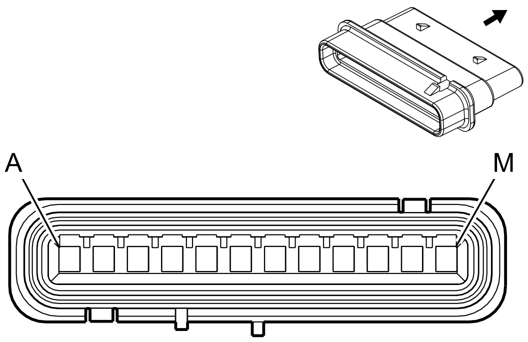
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13575721	J-35616-4A (PU)	J-38125-553	Not Required	Not Required	Not Required	Not Required
I	13575721	J-35616-4A (PU)	J-38125-553	Not Required	Not Required	Not Required	Not Required

JX200 Splice Pack - Instrument Panel

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	0.5	—	5060	Low Speed GMLAN Serial Data	I	—
	0.5	L-GN	5060			—
B - C	—	—	—	Not Occupied	—	—
D	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
	0.5	—	5060			—
E	0.35	L-GN	5060	Low Speed GMLAN Serial Data	I	—
	0.35	—	5060			—
F	—	—	—	Not Occupied	—	—
G	0.5	—	5060	Low Speed GMLAN Serial Data	I	—

	0.5	L-GN	5060			—
H	0.5	—	5060	Low Speed GMLAN Serial Data	I	—
	0.5	L-GN	5060			—
J	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
	0.5	—	5060			—
K	0.35	L-GN	5060	Low Speed GMLAN Serial Data	I	—
	0.35	—	5060			—
L	0.5	L-GN	5060	Low Speed GMLAN Serial Data	I	—
	0.5	—	5060			—
M	0.5	—	5060	Low Speed GMLAN Serial Data	I	—
	0.5	L-GN	5060			—

JX101 Splice Pack - CNG Engine (LC8)



Connector Part Information

Harness Type: CNG Engine

OEM Connector: 12191905

Service Connector: 12167317

Description: 12-Way F 150 GT SPL Saver Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	13327173	J-35616-14 (GN)	J-38125-553	12191819	9	2	1
II	13584446	J-35616-14 (GN)	J-38125-553	12191819	9	E	1
III	13578912	J-35616-14 (GN)	J-38125-553	12191819	9	2	1

JX101 Splice Pack - CNG Engine (LC8)

Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A	1	RD	—	Battery Positive Voltage	I	—
B	0.5	RD	—	Battery Positive Voltage	II	—
C	0.8	RD	—	Battery Positive Voltage	III	—
D	0.5	RD	—	Battery Positive Voltage	II	—
E	0.5	RD/WH	—	5-Volt Output	II	—
F	0.5	RD/WH	—	5-Volt Output	II	—
G	—	—	—	Not Occupied	—	—
H	0.5	RD/WH	—	5-Volt Output	II	—
J	—	—	—	Not Occupied	—	—
K	0.35	PU	—	Fuel Pump Supply Voltage	II	—
L	0.5	PU	—	Fuel Pump Supply Voltage	III	—
M	0.5	PU	—	Fuel Pump Supply Voltage	II	—

X100 Forward Lamp Harness to Front Bumper Harness (UD5)

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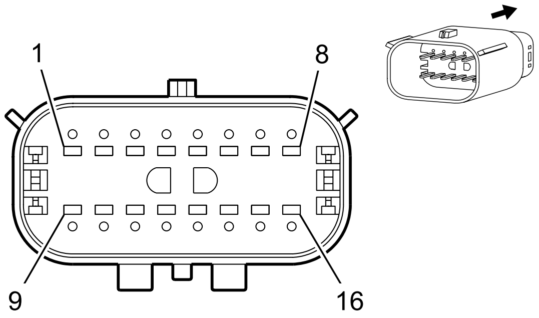

Connector Part Information

Harness Type: Forward Lamp

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F

Connector Part Information

Harness Type: Front Bumper

OEM Connector: 15533030

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

X100 Forward Lamp Harness to Front Bumper Harness (UD5)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	BK	150	I	—	Ground	1	0.5	BK	150	II	—
2	0.5	BK	250	I	—	Ground	2	0.5	BK	250	II	—
3	0.5	BN/VT	2234	I	—	Front Fog Lamp Control	3	0.5	BN/VT	2234	II	—
4	0.5	YE/L-GN	5213	I	—	Front Parking Left/Right/Mid Sensor	4	0.5	YE/L-GN	5213	II	—

5	0.5	VT/WH	5215	I	—	Front Parking Left Corner Sensor	5	0.5	VT/WH	5215	II	—
6	0.5	YE/GY	5216	I	—	Front Parking Left Mid Sensor	6	0.5	YE/GY	5216	II	—
7	0.5	WH/GY	5217	I	—	Front Parking Right Corner Sensor	7	0.5	WH/GY	5217	II	—
10	0.5	VT/GY	5218	I	—	Front Parking Right Mid Sensor	10	0.5	VT/GY	5218	II	—
11	0.5	BK/D-BU	5214	I	—	Front Parking Sensor Low Reference	11	0.5	BK/D-BU	5214	II	—

X100 Foward Lamp Harness to Front Bumper Harness (except UD5)

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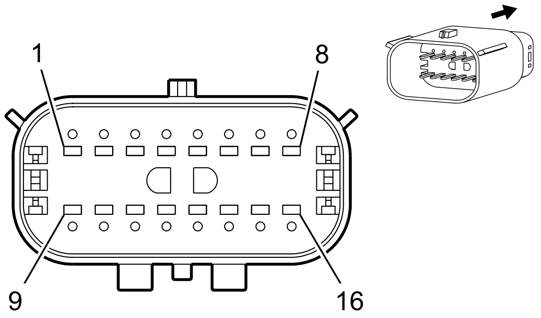


Connector Part Information

Harness Type: Foward Lamp

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F

Connector Part Information

Harness Type: Front Bumper

OEM Connector: 33101516

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way M 150 MX Series, Sealed (BK)

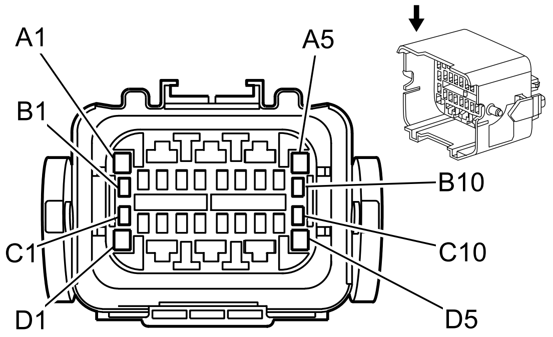
Terminal Part Information

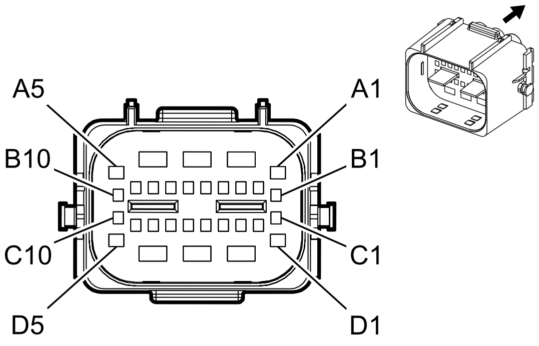
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	Pending	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

X100 Foward Lamp Harness to Front Bumper Harness (except UD5)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	BK	150	I	—	Ground	1	0.5	BK	150	II	—
2	0.5	BK	250	I	—	Ground	2	0.5	BK	250	II	—
3	0.5	BN/VT	2234	I	—	Front Fog Lamp Control	3	0.5	BN/VT	2234	II	—

X101 Engine Chassis Harness to Engine Harness (LML)





Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 15355480

Service Connector: 19181242

Description: 30-Way F 150 GT Series, Sealed (BK)

Connector Part Information

Harness Type: Engine

OEM Connector: 15450510

Service Connector: 89046785

Description: 30-Way M 150 280 630 Metri-Pack Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575392	J-35616-4A (PU)	J-38125-553	15304720	15	4	5
II	13575412	J-35616-14 (GN)	J-38125-553	12191819	9	E	1
III	13578879	J-35616-14 (GN)	J-38125-553	12191819	9	C	1
IV	19303716	J-35616-42 (RD)	J-38125-11A	15305232	2	B/4	3
V	13575443	J-35616-5 (PU)	J-38125-553	Not Available	Not Available	Not Available	Not Available
VI	13579780	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VII	13579781	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VIII	19303715	J-35616-43 (RD)	J-38125-11A	12064734	3	E	3

X101 Engine Chassis Harness to Engine Harness (LML)

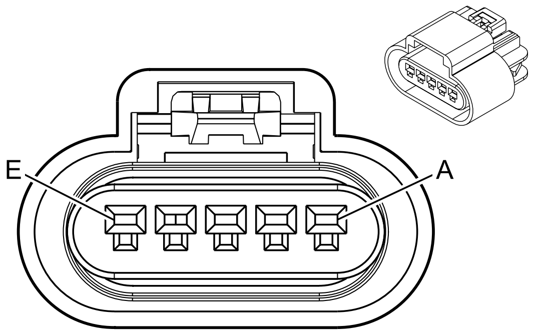
Pin	Size	Color	Circuit	Terminal Type	Option	Function	Pin	Size	Color	Circuit	Terminal Type	Option

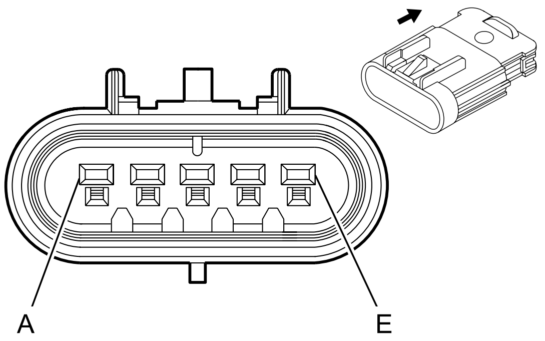
				ID							ID	
A1	1.5	WH/BN	3677	I	—	DEF Reservoir Heater Control	A1	2	OR/WH	3677	V	LML
A2	—	—	—	—	—	Not Occupied	A2	—	—	—	—	—
A3	0.75	YE/D-BU	3680	IV	—	Charge Air Cooler Outlet Temperature Sensor Low Reference	A3	0.5	—	3680	VIII	LML
A4	0.75	BN	3681	IV	—	Charge Air Cooler Outlet Temperature Sensor Signal	A4	0.5	BR	3681	VIII	LML
A5	1.5	GY/WH	3675	I	—	DEF Pump Heater Control	A5	2	VT/WH	3199	V	LML
B1	1.5	VT/D-BU	3674	III	—	Nox Sensor (1) Control	B1	0.5	VT	3674	VI	LML
B2	0.5	D-BU	2500	II	—	High Speed GMLAN Serial Data (+) (1)	B2	0.5	—	2500	VI	LML
B3	0.5	VT/YE	5985	II	—	Accessory Wakeup Serial Data	B3	0.5	BU	5985	VI	LML
B4	0.5	VT/BK	2139	II	—	Run/Crank Ignition 1 Voltage	B4	0.5	PK	2139	VI	LML
B5	0.5	L-GN/GY	465	II	—	Fuel Pump Primary Relay Control	B5	0.5	L-GN	497	VI	LML
B6	0.5	WH/L-GN	6142	II	—	Power Take Off Engine Shutdown Signal	B6	0.5	GN/WH	6142	VI	LML
		BK/D-BU	61	II	—	Outside Ambient			BK/BU	61	VI	LML

B7	0.5					Temperature Sensor Low Reference	B7	0.5				
B8	0.5	BK/BN	5360	II	—	Brake Apply Sensor Low Reference	B8	0.5	BR/WH	5360	VI	LML
B9	0.5	D-BU	2500	II	—	High Speed GMLAN Serial Data (+) (1)	B9	0.5	—	2500	VI	LML
B10	1.5	GY	3672	III	—	Nox Sensor (2) Control	B10	0.5	GY	3672	VI	LML
C1	1.5	BK/D-BU	3673	III	—	Nox Sensor (1) Ground	C1	1.0-1.25	—	3673	VII	LML
C2	0.5	WH	2501	II	—	High Speed GMLAN Serial Data (-) (1)	C2	0.5	—	2501	VI	LML
C3	0.5	BN/D-BU	2926	II	—	Hydrocarbon Injector High Control	C3	0.5	BU	2926	VI	LML
C4	0.5	VT/BN	2927	II	—	Hydrocarbon Injector Low Control	C4	0.5	VT	2927	VI	LML
C5	0.5	D-BU/GY	636	II	—	Outside Ambient Air Temperature Sensor Signal	C5	0.5	BU/GY	636	VI	LML
C6	0.5	D-BU/WH	1937	II	—	Secondary Fuel Level Sensor Signal	C6	0.5	L-BU	1937	VI	LML
C7	0.5	WH	5359	II	—	Brake Apply Sensor Control	C7	0.5	WH	5359	VI	LML
		D-BU/YE	5361	II	—	Brake Apply Sensor			YE	5361	VI	LML

C8	0.5					Brake Apply Sensor Signal	C8	0.5				
C9	0.5	WH	2501	II	—	High Speed GMLAN Serial Data (-) (1)	C9	0.5	—	2501	VI	LML
C10	1.5	BK/GY	3671	III	—	Nox Sensor (2) Ground	C10	1.0-1.25	—	3671	VII	LML
D1	1.5	VT/WH	3676	I	—	DEF Heating Tank (2) Heater Control	D1	2	GY/WH	3675	V	LML
D2	0.75	GY/D-BU	7564	IV	—	Humidity Sensor Signal	D2	0.5	L-BU	7564	VIII	LML
D3	—	—	—	—	—	Coolant Temperature Sensor Signal	D3	0.5	L-GN	2032	VIII	LML
D4	—	—	—	—	—	Coolant Temperature Sensor 2 Low Reference	D4	0.5	L-BU/BK	6813	VIII	LML
D5	—	—	—	—	—	Not Occupied	D5	—	—	—	—	—

X102 Engine Harness to Engine Cooling Fan Jumper Harness (LML)





Connector Part Information

Harness Type: Engine

OEM Connector: 13519051

Service Connector: 13585858

Description: 5-Way F 150 GT Series, Sealed (BK)

Connector Part Information

Harness Type: Engine Cooling Fan Jumper

OEM Connector: 13519053

Service Connector: Service by Harness - See Part Catalog

Description: 5-Way M 150 GT Series, Sealed (BK)

Terminal Part Information

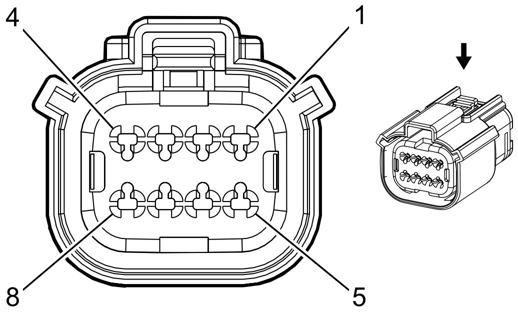
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

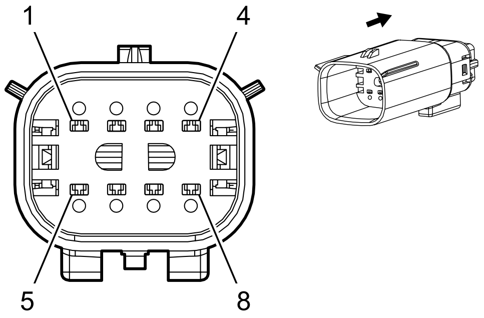
X102 Engine Harness to Engine Cooling Fan Jumper Harness (LML)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.5	BK	550	I	—	Ground	A	—	GN	550	II	—
B	0.5	WH	2368	I	—	Cooling Fan Control Signal	B	—	RD	2368	II	—
C	0.5	BK/BN	6141	I	—	Cooling Fan Speed Low Reference	C	—	BK	6141	II	—
D	0.5	BU/VT	2364	I	—	Cooling Fan Speed Signal	D	—	WH	2364	II	—

E	0.5	GY/RD	2365	I	—	Cooling Fan Speed 5 Volt Reference	E	—	OG	2365	II	—

X105 Engine Harness to Forward Lamp Harness (L8B)





Connector Part Information

Harness Type: Engine

OEM Connector: 13654393

Service Connector: 13577527

Description: 8-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 15456955

Service Connector: 19300474

Description: 8-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

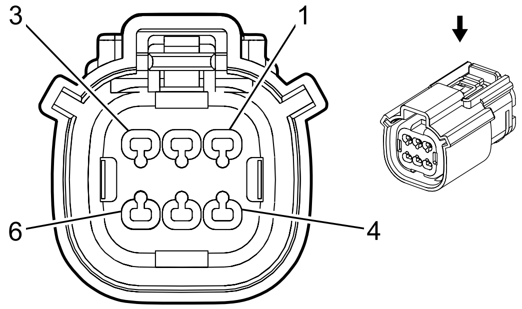
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

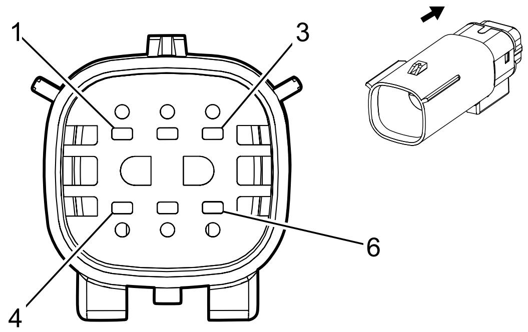
X105 Engine Harness to Forward Lamp Harness (L8B)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	BN/YE	473	I	—	High Speed Cooling Fan Relay Control	1	0.5	BN/YE	473	II	—
2	0.5	BK/D-BU	61	I	—	Outside Ambient Temperature Sensor Low Reference	2	0.5	BK/D-BU	61	II	—

3	0.5	D-BU/GY	636	I	—	Outside Ambient Air Temperature Sensor Signal	3	0.5	D-BU/GY	636	II	—
4	0.5	GY/VT	3873	I	—	Powertrain Electronics Cooling Loop (PECL) Temperature Sensor Signal	4	0.5	GY/VT	3873	II	—
5	0.75	VT/D-BU	5290	I	—	Powertrain Main Relay Fused Supply (1)	5	0.5	VT/D-BU	5290	II	—
6	0.5	L-GN/VT	4621	I	—	Local Interconnect Network Serial Data Bus 21	6	0.5	L-GN/VT	4621	II	—
7	0.5	VT/D-BU	3790	I	—	Electric Coolant Motor Feedback Signal	7	0.5	VT/D-BU	3790	II	—
8	0.5	BK/GY	3872	I	—	Powertrain Electronics Cooling Loop (PECL) Temperature Sensor Low Reference	8	0.5	BK/GY	3872	II	—

X105 Engine Harness to Forward Lamp Harness (except L8B)





Connector Part Information

Harness Type: Engine

OEM Connector: 13609714

Service Connector: 13585853

Description: 6-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 15457002

Service Connector: 13576414

Description: 6-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

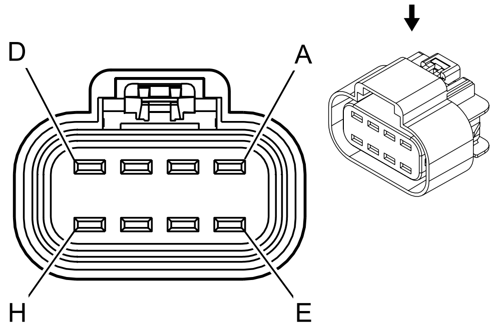
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X105 Engine Harness to Forward Lamp Harness (except L8B)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	BN/YE	473	I	—	High Speed Cooling Fan Relay Control	1	0.5	BN/YE	473	II	—
2	0.5	BK/D-BU	61	I	—	Outside Ambient Temperature Sensor Low Reference	2	0.5	BK/D-BU	61	II	—

3	0.5	D-BU/GY	636	I	—	Outside Ambient Air Temperature Sensor Signal	3	0.5	D-BU/GY	636	II	—
4 - 6	—	—	—	—	—	Not Occupied	4 - 6	—	—	—	—	—

X110 Forward Lamp Harness to Front Bumper Harness (Heavy Duty)



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Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 15326654

Service Connector: 88986254

Description: 8-Way F 280 GT 5.8 Series, Sealed (BK)

Connector Part Information

Harness Type: Front Bumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way M

Terminal Part Information

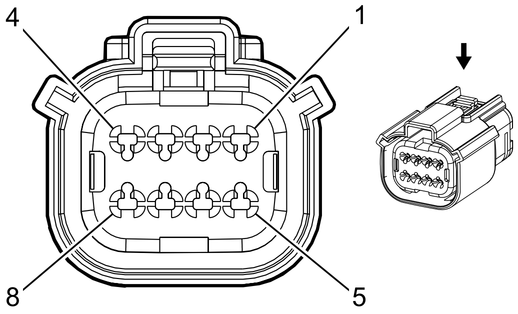
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X110 Forward Lamp Harness to Front Bumper Harness (Heavy Duty)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	BK	150	I	—	Ground	A	1.5	BK	150	II	—
B	0.75	YE	712	I	—	Left Headlamp Low Beam Control	B	0.75	YE	712	II	—
C	0.5	WH	711	I	—	Left Headlamp High Beam Control	C	0.5	WH	711	II	—
D	—	—	—	—	—	Not Occupied	D	—	—	—	—	—
E	0.5	VT/GY	709	I	—	Left Park Lamp Control	E	0.5	VT/GY	709	II	—

F	0.75	D-BU/WH	1314	I	—	Left Front Turn Signal Lamp Control	F	0.75	D-BU/WH	1314	II	—
G	0.75	GY/D-BU	7538	I	—	Left Front DRL Control	G	0.75	GY/D-BU	7538	II	—
H	0.5	VT/GY	709	I	—	Left Park Lamp Control	H	0.5	VT/GY	709	II	—

X110 Forward Lamp Harness to Front Bumper Harness (Light Duty)



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Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13654393

Service Connector: 13577527

Description: 8-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Front Bumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way M

Terminal Part Information

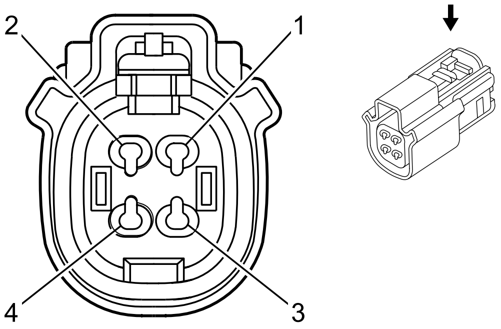
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

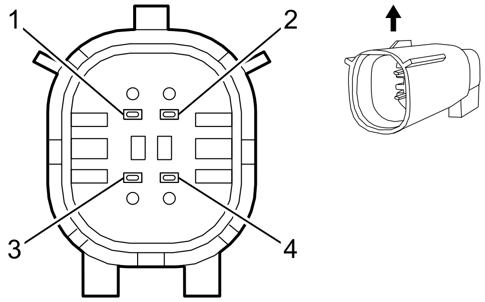
X110 Forward Lamp Harness to Front Bumper Harness (Light Duty)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1.5	BK	150	I	—	Ground	1	1.5	BK	150	II	—
2	0.75	YE	712	I	—	Left Headlamp Low Beam Control	2	0.75	YE	712	II	—
3	0.5	WH	711	I	—	Left Headlamp High Beam Control	3	0.5	WH	711	II	—
4	0.5	VT/GY	709	I	—	Left Park Lamp Control	4	0.5	VT/GY	709	II	—

5	0.5	D-BU/VT	3204	I	—	Left Headlamp Bulb Outage Signal	5	0.5	D-BU/VT	3204	II	—
6	0.5	VT/GY	3139	I	—	Run/Crank Ignition 1 Voltage	6	0.5	VT/GY	3139	II	—
7	0.75	D-BU/WH	1314	I	—	Left Front Turn Signal Lamp Control	7	0.75	D-BU/WH	1314	II	—
8	0.75	GY/D-BU	7538	I	—	Left Front DRL Control	8	0.75	GY/D-BU	7538	II	—

X111 Front Axle Harness to Engine Harness





Connector Part Information

Harness Type: Front Axle

OEM Connector: 13872556

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13586625

Service Connector: 19329823

Description: 4-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

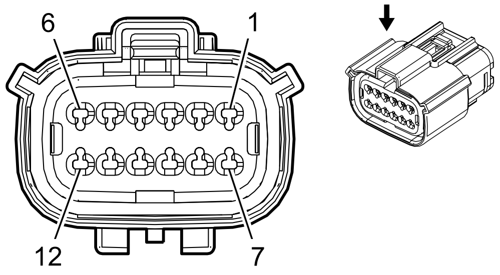
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

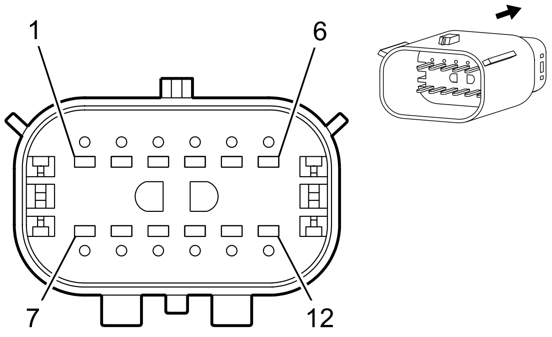
X111 Front Axle Harness to Engine Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	YE/WH	1695	I	—	Four Wheel Drive Wheel Lock Indicator Control	1	0.5	YE/WH	1695	II	—
2	0.5	GY/BK	1570	I	—	Front Axle Actuator Control	2	0.5	GY/BK	1570	II	—

3	0.5	VT/BK	2139	I	—	Run/Crank Ignition 1 Voltage	3	0.5	VT/BK	2139	II	—
4	0.5	BK	550	I	—	Ground	4	1	BK	550	II	—

X113 Engine Jumper Harness to Engine Harness





Connector Part Information

Harness Type: Engine Jumper

OEM Connector: 33472-1301

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Engine

OEM Connector: 33482-1201

Service Connector: 13503540

Description: 12-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

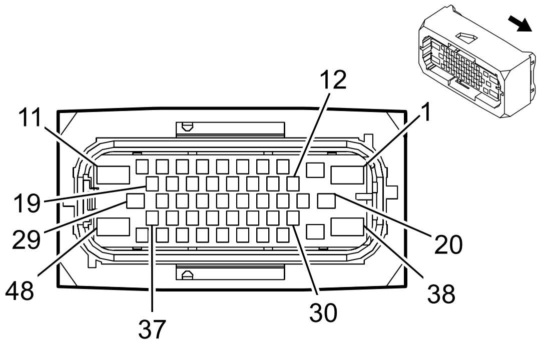
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	13580014	J-35616-3 (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

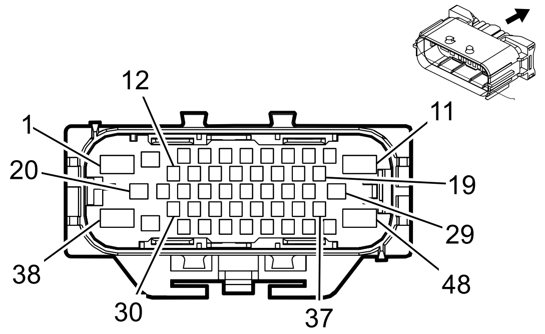
X113 Engine Jumper Harness to Engine Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	YE	410	I	LML	Engine Coolant Temperature Sensor Signal	1	0.5	YE	410	II	LML
2	0.5	—	2761	I	LML	Coolant Temperature Sensor Low Reference	2	0.5	—	2761	II	LML

3	0.5	BR/GY	7072	I	LML	Sensor Fuel Temperature 1 Signal	3	0.5	BR/GY	7072	II	LML
4	0.5	BR/WH	7073	I	LML	Sensor Fuel Temperature 1 Low Reference	4	0.5	BR/WH	7073	II	LML
5	0.5	YE	2928	I	LML	Fuel Metering Valve High Control	5	0.5	YE	2928	II	LML
6	0.5	BK	2929	I	LML	Fuel Metering Valve Low Control	6	0.5	BK	2929	II	LML
7	0.8	VT/WH	2530	I	LML	Fuel Rail Pressure Solenoid Control	7	0.8	VT/WH	2530	II	LML
8	0.8	YE	2834	I	LML	Fuel Rail Pressure Solenoid Low Reference	8	0.8	YE	2834	II	LML
9	0.5	—	331	I	LML	Oil Pressure Sensor Signal	9	0.5	—	331	II	LML
10	0.5	BK	2755	I	LML	Oil Pressure Sensor Low Reference	10	0.5	BK	2755	II	LML
11	0.5	GY	2705	I	LML	Oil Pressure Sensor 5 Volt Reference	11	0.5	GY	2705	II	LML
12	0.5	BR	1174	I	LML	Oil Level Switch Signal	12	0.5	BR	1174	II	LML

X115 Engine Harness to Body Harness





Connector Part Information

Harness Type: Engine

OEM Connector: 15509049

Service Connector: 19329480

Description: 48-Way F 1.5 MCP, 2.8 JPT, 6.3 MCP Series, Sealed (GY)

Connector Part Information

Harness Type: Body

OEM Connector: 33125486

Service Connector: 19329482

Description: 48-Way M 1.6, 2.8, 5.8 Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13580829	J-35616-4A (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
II	13580830	J-35616-4A (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
III	13582180	J-35616-14 (GN)	J-38125-560	1241374-1	6	E	2
IV	19119381	J-35616-14 (GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
V	19119560	J-35616-40 (BU)	J-38125-556	1241408-1	4	B	G
VI	19329757	J-35616-14 (GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
VII	13575380	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VIII	13578881	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
IX	13578882	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
X	13579985	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X	[illegible]	[illegible]	[illegible]	Not Available	Not Available	Not Available	Not Available
XI	13580827	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
XII	19329756	J-35616-42 (RD)	J-38125-36	Not Available	Not Available	Not Available	Not Available

X115 Engine Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	3	RD/GY	1342	V	—	Battery Positive Voltage	1	4	RD/GY	1342	XII	—
2	0.75	D-BU/BN	7573	II	—	Electric Variable Displacement Supply	2	0.5	D-BU/BN	7573	XI	—
3	0.5 0.5	BN/WH BN/WH	419 419	III IV	— —	Check Engine Indicator Control	3	0.35	BN/WH	419	IX	—
4	0.5 0.5	WH/D-BU WH/D-BU	6311 6311	IV III	— —	Cruise/ETC/TCC Brake Signal	4	0.35	WH/D-BU	6311	IX	—
5	0.5 0.5	WH WH	2501 2501	IV III	— —	High Speed GMLAN Serial Data (-) (1)	5	0.5	WH	2501	VII	—
6	0.5 0.5	D-BU D-BU	2500 2500	III IV	— —	High Speed GMLAN Serial Data (+) (1)	6	0.5	D-BU	2500	VII	—

7	0.5 0.5	WH WH	5359 5359	III IV	— —	Brake Apply Sensor Control	7	0.5	WH	5359	VII	—
8	0.5 0.5	BK/BN BK/BN	5360 5360	IV III	— —	Brake Apply Sensor Low Reference	8	0.5	BK/BN	5360	VII	—
9	0.5 0.5	D-BU/YE D-BU/YE	5361 5361	III IV	— —	Brake Apply Sensor Signal	9	0.5	D-BU/YE	5361	VII	—
10	0.5	YE/WH	1161	VI	—	Accelerator Pedal Position Signal (1)	10	0.35	YE/WH	1161	X	—
11	3	BK	550	V	—	Ground	11	4	BK	550	XII	—
12	0.5	WH/L-GN	7479	IV	—	Rotary Position Sensor Signal	12	0.5	WH/L-GN	7479	VII	—
13	0.5	YE/BK	7478	IV	—	Rotary Position Sensor Low Reference	13	0.5	YE/BK	7478	VII	—
14	0.5 0.5	YE/WH YE/WH	1695 1695	IV III	— —	Four Wheel Drive Wheel Lock Indicator Control	14	0.5	YE/WH	1695	VII	—

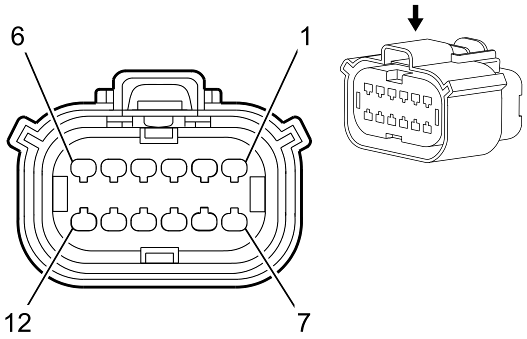
	0.5											
15	0.5 0.5	GY/BK GY/BK	1570 1570	III IV	— —	Front Axle Actuator Control	15	0.5	GY/BK	1570	VII	—
16	0.5 0.5	VT/YE VT/YE	5985 5985	III IV	— —	Accessory Wakeup Serial Data	16	0.35	VT/YE	5985	IX	—
17	0.5	WH/D-BU	5986	III	—	Serial Data Communication Enable	17	0.5	WH/D-BU	5986	VII	—
18	0.5	WH/RD	1164	VI	—	Accelerator Pedal Position 5 Volt Reference (1)	18	0.35	WH/RD	1164	X	—
19	0.5	BK/D-BU	1271	VI	—	Accelerator Pedal Position Low Reference (1)	19	0.35	BK/D-BU	1271	X	—
20	0.75	D-BU/YE	7574	II	—	Electric Variable Displacement Control	20	0.5	D-BU/YE	7574	XI	—
21	0.5	WH/RD	7477	IV	—	Rotary Position Sensor 5 Volt Reference	21	0.5	WH/RD	7477	VII	—
22	0.5 0.5	D-BU/GY D-BU/GY	7473 7473	III IV	— —	Incremental Encoder Impulse Signal	22	0.35	D-BU/GY	7473	IX	—

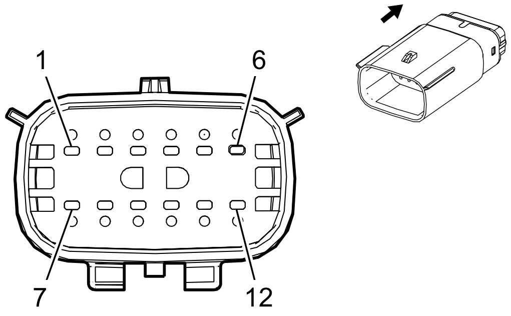
23	0.5 0.5	VT VT	7476 7476	IV III	— —	Incremental Encoder Sensor Low Reference	23	0.35	VT	7476	IX	—
24	—	—	—	—	—	Not Occupied	24	—	—	—	—	—
25	0.5	BN/RD	1274	VI	—	Accelerator Pedal Position 5 Volt Reference (2)	25	0.35	BN/RD	1274	X	—
26	0.5	L-GN/WH	1162	VI	—	Accelerator Pedal Position Signal (2)	26	0.35	L-GN/WH	1162	X	—
27	0.5	BK/PU	1272	VI	—	Accelerator Pedal Position Low Reference (2)	27	0.35	BK/VT	1272	X	—
28	0.5	VT/D-BU	6091	IV	—	Crankshaft Position Sensor Replicated Signal	28	0.35	VT/D-BU	6091	IX	—
29	2.5	YE/BN	1569	I	—	Transfer Case Lock Solenoid Control	29	2.5	YE/BN	1569	VIII	—
30	0.5 0.5	WH/L-GN WH/L-GN	7475 7475	IV III	— —	Incremental Encoder Sensor 8 Volt Reference	30	0.35	WH/L-GN	7475	IX	—
31	0.5 0.5	YE YE	7474 7474	IV III	— —	Incremental Encoder Direction Signal	31	0.35	YE	7474	IX	—

32	0.5	BK/PU	5077	IV	—	Current Sensor Low Reference	32	0.35	BK/VT	5077	IX	—
33	0.5	WH/YE	5075	IV	—	Current Sensor Signal	33	0.35	WH/YE	5075	IX	—
34	0.5	D-BU/VT	5076	IV	—	Current Sensor Control	34	0.35	D-BU/VT	5076	IX	—
35	0.5 0.5	D-BU/YE D-BU/YE	6105 6105	III IV	— —	High Speed GMLAN Serial Data (+) (2)	35	0.5	D-BU/YE	6105	VII	—
36	0.5 0.5	WH WH	6106 6106	IV III	— —	High Speed GMLAN Serial Data (-) (2)	36	0.5	WH	6106	VII	—
37	0.75	RD/D-BU	4540	III	—	Battery Positive Voltage	37	0.75	RD/D-BU	4540	VII	—
38	3	YE/VT	1553	V	—	Transfer Case Motor Counter Clockwise Control	38	4	YE/VT	1553	XII	—
39	0.75	RD/VT	2640	II	—	Battery Positive Voltage	39	0.75	RD/VT	2640	XI	—
40	0.5	BN/L-GN	4311	III	—	Power Take Off Enable In Cab Switch Normally Closed Signal	40	0.35	BN/L-GN	4311	IX	—

41	0.5	L-GN/WH	488	III	—	Power Take Off Control Switch	41	0.35	L-GN/WH	488	IX	—
42	0.5	VT/BN	300	IV	—	Run Ignition 3 Voltage	42	0.5	VT/BN	300	VII	—
43	0.5	L-GN/BN	507	III	—	Wait To Start Indicator Control	43	0.35	L-GN/BN	507	IX	—
44	0.5	D-BU/YE	68	III	—	Low Coolant Level Indicator Control	44	0.5	D-BU/YE	68	VII	—
45	0.5 0.5	GY/RD D-BU/GY	6109 636	IV	— —	Clutch Apply Sensor 5 Volt Reference Outside Ambient Air Temperature Sensor Signal	45	0.5 0.35	GY/RD D-BU/GY	6109 636	VII IX	— —
46	0.5 0.5	BK/D-BU BK/GY	61 6110	IV	— —	Outside Ambient Temperature Sensor Low Reference Clutch Apply Sensor Low Reference	46	0.35 0.5	BK/D-BU BK/GY	61 6110	IX VII	— —
47	0.5	YE	6111	IV	—	Clutch Apply Sensor Signal	47	0.5	YE	6111	VII	—
48	3	OG	1552	V	—	Transfer Case Motor Clockwise Control	48	4	YE/GY	1552	XII	—

X116 Engine Harness to Body Harness





Connector Part Information

Harness Type: Engine

OEM Connector: 13653762

Service Connector: 13503528

Description: 12-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Body

OEM Connector: 13534850

Service Connector: 13503540

Description: 12-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

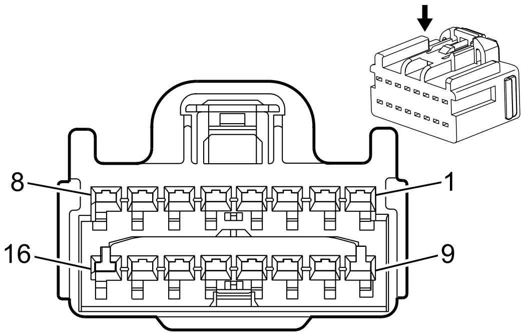
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19300635	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
II	19119440	J-35616-3 (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

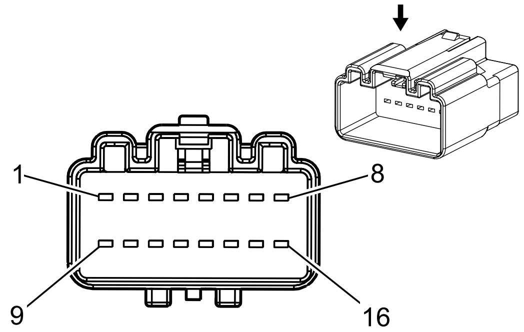
X116 Engine Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 2	—	—	—	—	—	Not Occupied	1 - 2	—	—	—	—	—
3	0.5	D-BU	2500	I	—	High Speed GMLAN Serial Data (+) (1)	3	0.5	D-BU	2500	II	—
4	0.5	WH	2501	I	—	High Speed GMLAN	4	0.5	WH	2501	II	—

4	0.5					Serial Data (-) (1)	4	0.5				
5 - 8	—	—	—	—	—	Not Occupied	5 - 8	—	—	—	—	—
9	0.5	D-BU/BK	7493	I	—	High Speed GMLAN Serial Data (+)(3)	9	0.5	D-BU/BK	7493	II	—
10	0.5	WH	7494	I	—	High Speed GMLAN Serial Data (-)(3)	10	0.5	WH	7494	II	—
11 - 12	—	—	—	—	—	Not Occupied	11 - 12	—	—	—	—	—

X119 Body Harness to Brake Clutch Harness (except E29)





Connector Part Information

Harness Type: Body

OEM Connector: 10847013

Service Connector: 89047090

Description: 16-Way F 1.5 Kaizen Series (GN)

Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 13507433

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way M 1.5 Kaizen Series (GN)

Terminal Part Information

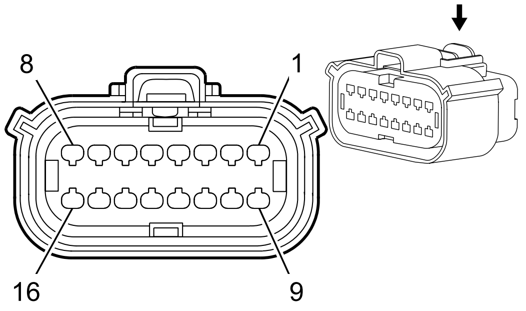
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578813	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

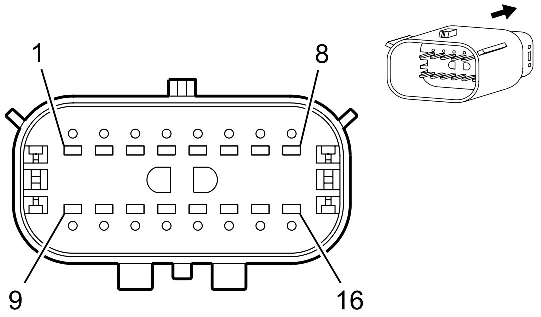
X119 Body Harness to Brake Clutch Harness (except E29)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	BK/D-BU	1271	I	—	Accelerator Pedal Position Low Reference (1)	1	0.35	BK/D-BU	1271	II	—
2	0.35	YE/WH	1161	I	—	Accelerator Pedal Position Signal (1)	2	0.35	YE/WH	1161	II	—

3	0.35	WH/RD	1164	I	—	Accelerator Pedal Position 5 Volt Reference (1)	3	0.35	WH/RD	1164	II	—
4	0.35	BK/VT	1272	I	—	Accelerator Pedal Position Low Reference (2)	4	0.35	BK/VT	1272	II	—
5	0.35	L-GN/WH	1162	I	—	Accelerator Pedal Position Signal (2)	5	0.35	L-GN/WH	1162	II	—
6	0.35	BN/RD	1274	I	—	Accelerator Pedal Position 5 Volt Reference (2)	6	0.35	BN/RD	1274	II	—
7	0.5	WH	5359	I	—	Brake Apply Sensor Control	7	0.5	WH	5359	II	—
8	0.5	BK/BN	5360	I	—	Brake Apply Sensor Low Reference	8	0.5	BK/BN	5360	II	—
9	0.5	D-BU/YE	5361	I	—	Brake Apply Sensor Signal	9	0.5	D-BU/YE	5361	II	—
10	0.5	YE/BK	7478	I	—	Rotary Position Sensor Low Reference	10	0.5	YE/BK	7478	II	—
11	0.5	WH/RD	7477	I	—	Rotary Position Sensor 5 Volt Reference	11	0.5	WH/RD	7477	II	—
12	0.5	WH/L-GN	7479	I	—	Rotary Position Sensor Signal	12	0.5	WH/L-GN	7479	II	—
13 - 16	—	—	—	—	—	Not Occupied	13 - 16	—	—	—	—	—

X119 Body Harness to Brake Clutch Harness (E29)





Connector Part Information

Harness Type: Brake Clutch

OEM Connector: 13778557

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Body

OEM Connector: 13551665

Service Connector: 19300393

Description: 16-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	13580014	J-35616-3 (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
III	19119440	J-35616-3 (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

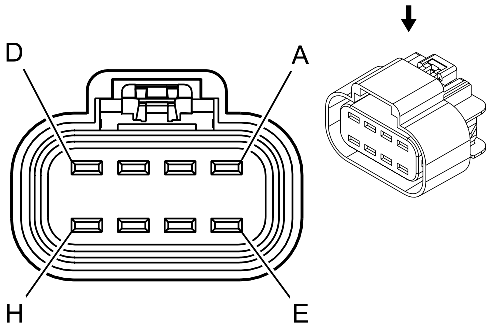
X119 Body Harness to Brake Clutch Harness (E29)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	BK/D-BU	1271	I	—	Accelerator Pedal Position Low Reference (1)	1	0.35	BK/D-BU	1271	II	—
2	0.35	YE/WH	1161	I	—	Accelerator Pedal	2	0.35	YE/WH	1161	II	—

2	0.35					Position Signal (1)	2	0.35			
3	0.35	WH/RD	1164	I	—	Accelerator Pedal Position 5 Volt Reference (1)	3	0.35	WH/RD	1164	II	—
4	0.35	BK/VT	1272	I	—	Accelerator Pedal Position Low Reference (2)	4	0.35	BK/VT	1272	II	—
5	0.35	L-GN/WH	1162	I	—	Accelerator Pedal Position Signal (2)	5	0.35	L-GN/WH	1162	II	—
6	0.35	BN/RD	1274	I	—	Accelerator Pedal Position 5 Volt Reference (2)	6	0.35	BN/RD	1274	II	—
7 - 9	—	—	—	—	—	Not Occupied	7 - 9	—	—	—	—	—
10	0.5	WH/L-GN	526	I	—	Stop Lamp Switch Signal	10	0.35	WH/L-GN	526	III	—
11	0.5	BK/L-GN	552	I	—	Sensor Low Reference	11	0.35	BK/L-GN	552	III	—
12	0.5	GY/RD	598	I	—	5 Volt Reference	12	0.35	GY/RD	598	III	—
13	0.5	GY/RD	6109	I	—	Clutch Apply Sensor 5 Volt Reference	13	0.5	GY/RD	6109	III	—
14	0.5	BK/GY	6110	I	—	Clutch Apply Sensor Low Reference	14	0.5	BK/GY	6110	III	—
15	0.5	YE	6111	I	—	Clutch Apply Sensor Signal	15	0.5	YE	6111	III	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—

16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—

X120 Forward Lamp Harness to Front Bumper Harness (Heavy Duty)



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Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 15326654

Service Connector: 88986254

Description: 8-Way F 280 GT 5.8 Series, Sealed (BK)

Connector Part Information

Harness Type: Front Bumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way M

Terminal Part Information

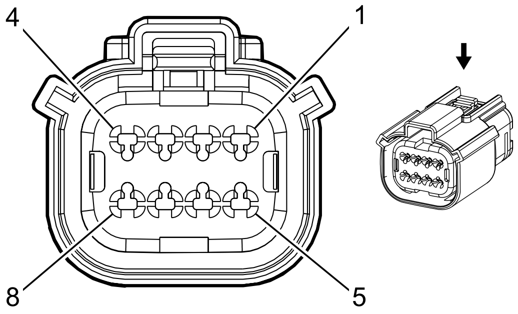
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X120 Forward Lamp Harness to Front Bumper Harness (Heavy Duty)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	BK	250	I	—	Ground	A	1.5	BK	250	II	—
B	0.75	YE	312	I	—	Right Headlamp Low Beam Control	B	0.75	YE	312	II	—
C	0.5	WH	311	I	—	Right Headlamp High Beam Control	C	0.5	WH	311	II	—
D	—	—	—	—	—	Not Occupied	D	—	—	—	—	—
E	0.5	GY/BN	309	I	—	Right Park Lamp Control	E	0.5	GY/BN	309	II	—

E	0.5					Control	E	0.5			
F	0.75	L-GN/PU	1315	I	—	Right Front Turn Signal Lamp Control	F	0.75	L-GN/PU	1315	II	—
G	0.75	D-BU/BN	7539	I	—	Right Front DRL Control	G	0.75	D-BU/BN	7539	II	—
H	0.5	GY/BN	309	I	—	Right Park Lamp Control	H	0.5	GY/BN	309	II	—

X120 Forward Lamp Harness to Front Bumper Harness (Light Duty)



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Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13654393

Service Connector: 13577527

Description: 8-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Front Bumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way M

Terminal Part Information

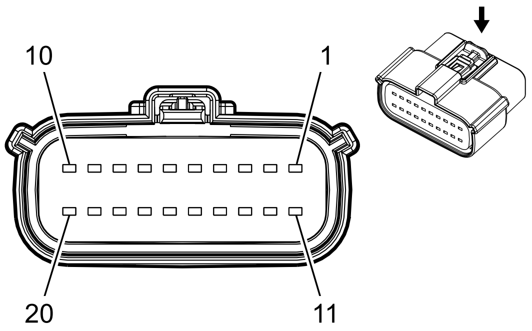
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

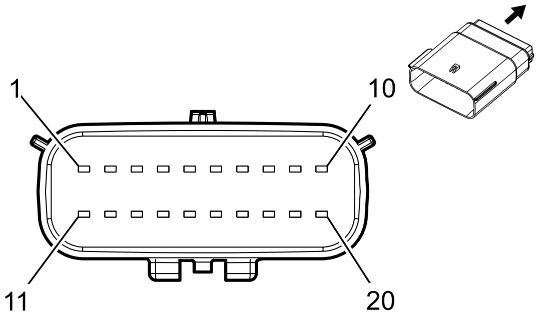
X120 Forward Lamp Harness to Front Bumper Harness (Light Duty)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1.5	BK	250	I	—	Ground	1	1.5	BK	250	II	—
2	0.75	YE	312	I	—	Right Headlamp Low Beam Control	2	0.75	YE	312	II	—
3	0.5	WH	311	I	—	Right Headlamp High Beam Control	3	0.5	WH	311	II	—
4	0.5	GY/BN	309	I	—	Right Park Lamp Control	4	0.5	GY/BN	309	II	—

5	0.5	WH/D-BU	3203	I	—	Right Headlamp Bulb Outage Signal	5	0.5	WH/D-BU	3203	II	—
6	0.5	VT/GY	3139	I	—	Run/Crank Ignition 1 Voltage	6	0.5	VT/GY	3139	II	—
7	0.75	L-GN/PU	1315	I	—	Right Front Turn Signal Lamp Control	7	0.75	L-GN/PU	1315	II	—
8	0.75	D-BU/BN	7539	I	—	Right Front DRL Control	8	0.75	D-BU/BN	7539	II	—

X125 Engine Harness to Chassis Harness





Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13650143

Service Connector: 19300557

Description: 20-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Chassis

OEM Connector: 33181840

Service Connector: 19300560

Description: 20-Way M 1.5 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578813	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
II	19300432	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
III	19300635	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
IV	13580014	J-35616-3 (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
V	19119440	J-35616-3 (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

X125 Engine Harness to Chassis Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	VT/D-BU	3120	III	—	Heated Oxygen Sensor High Signal Bank 1 Sensor (2)	1	0.5	VT	3120	V	—

	0.5	BK/L-GN	3657	I	—	Exhaust Gas Temperature Sensor 3 Low Reference		0.5	BK/L-GN	3657	IV	—
2	0.5	WH/YE	3121	III	—	Heated Oxygen Sensor Low Signal Bank 1 Sensor (2)	2	0.5	WH/YE	3121	V	—
	0.5	GY/L-GN	5378	I	—	Exhaust Gas Temperature Sensor (3)		0.5	GY/L-GN	5378	IV	—
3	0.5	GY/WH	3122	III	—	Heated Oxygen Sensor Heater Low Control Bank 1 Sensor (2)	3	0.5	GY/WH	3122	V	—
	0.5	BK/PU	3661	I	—	Exhaust Gas Temperature Sensor 5 Low Reference		0.5	BK/VT	3661	IV	—
4	0.5	D-BU/GY	3660	I	—	Exhaust Gas Temperature Sensor 5 Signal	4	0.5	D-BU/GY	3660	IV	—
	0.5	VT/D-BU	5294	III	—	Powertrain Main Relay Fused Supply (5)		0.5	VT/D-BU	5294	V	—
5	0.5	D-BU/YE	6105	III	—	High Speed GMLAN Serial Data (+) (2)	5	0.5	D-BU/YE	6105	V	—
6	0.5	WH	6106	III	—	High Speed GMLAN Serial Data (-) (2)	6	0.5	WH	6106	V	—
7	0.5	WH	1310	III	—	EVAP Canister Vent Solenoid Control	7	0.5	WH	1310	V	—
8	0.5	D-BU/WH	1937	III	—	Secondary Fuel Level Sensor Signal	8	0.5	D-BU/WH	1937	V	—
	0.5	D-BU/WH	7446		—	Fuel Line Pressure Sensor Signal		0.5	D-BU/WH	7446		—

	0.5							0.5				
9	0.5	BK/YE	7447	III	—	Fuel Line Pressure Sensor Low Reference	9	0.5	BK/YE	7447	V	—
10	0.5	RD/WH	2740	III	—	Battery Positive Voltage	10	0.5	RD/WH	2740	V	—
11	0.5	D-BU/VT	1589	III	—	Primary Fuel Level Sensor Signal	11	0.5	D-BU/VT	1589	V	—
12	0.5	BK/L-GN	6281	III	—	Fuel Level Sensor Low Reference	12	0.5	BK/L-GN	6281	V	—
13	0.5 0.5	D-BU D-BU/BK	6053 7493	I III	— —	Exhaust Pressure Sensor Signal (1) High Speed GMLAN Serial Data (+)(3)	13	0.5 0.5	D-BU D-BU/BK	6053 7493	IV V	— —
14	0.5 0.5	WH/RD WH	6054 7494	I III	— —	Exhaust Pressure Sensor 5 Volt Reference (1) High Speed GMLAN Serial Data (-)(3)	14	0.5 0.5	WH/RD WH	6054 7494	IV V	— —
15	0.5 0.5	BK/YE D-BU/WH	6055 890	I III	— —	Exhaust Pressure Sensor Low Reference (1) Fuel Tank Pressure Sensor Signal	15	0.5 0.5	BK/YE D-BU/WH	6055 890	IV V	— —
16	0.5	YE/RD	2709	III	—	Fuel Tank Pressure Sensor 5 Volt Reference	16	0.5	YE/RD	2709	V	—

17	0.5 0.5	WH D-BU/BK	1579 7493	III	— —	Fuel Temperature/Composition Signal High Speed GMLAN Serial Data (+)(3)	17	0.5 0.5	WH D-BU/BK	1579 7493	V	— —
18	0.5 0.5	BN/RD WH	7445 7494	III	— —	Fuel Line Pressure Sensor 5 Volt Reference High Speed GMLAN Serial Data (-)(3)	18	0.5 0.5	BN/RD WH	7445 7494	V	— —
19	1.5	GY	3672	II	—	Nox Sensor (2) Control	19	0.75	GY	3672	V	—
20	1.5	BK/GY	3671	II	—	Nox Sensor (2) Ground	20	0.75	BK/GY	3671	V	—

X132 Aero Shutter Jumper Harness to Forward Lamp Harness

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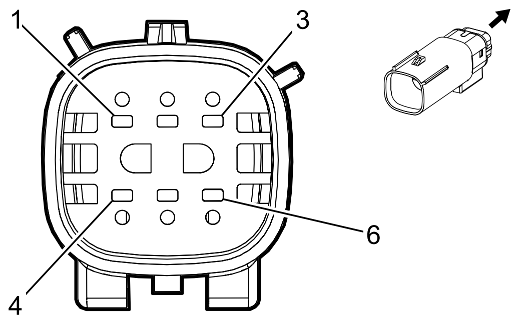


Connector Part Information

Harness Type: Aero Shutter Jumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F

Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 33104948

Service Connector: 19333101

Description: 6-Way M 150 MX Series, Sealed (GY)

Terminal Part Information

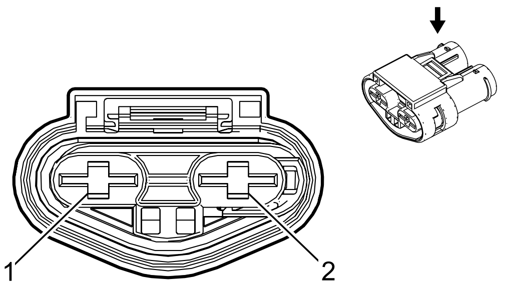
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

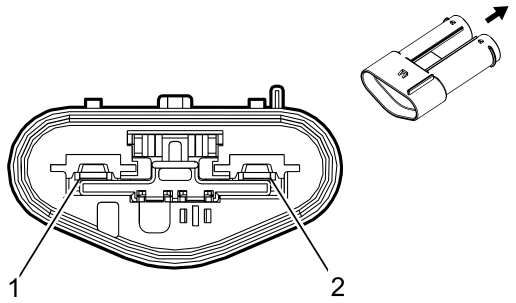
X132 Aero Shutter Jumper Harness to Forward Lamp Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1	BK	250	I	—	Ground	1	1	BK	250	II	—
2	0.5	VT/D-BU	5290	I	—	Powertrain Main Relay Fused Supply (1)	2	0.5	VT/D-BU	5290	II	—
3	0.5	L-GN/VT	4621	I	—	Local Interconnect Network Serial Data Bus 21	3	0.5	L-GN/VT	4621	II	—
5	0.5	BK/D-BU	61	I	—	Outside Ambient Temperature Sensor Low Reference	5	0.5	BK/D-BU	61	II	—

6	0.5	D-BU/GY	636	I	—	Outside Ambient Air Temperature Sensor Signal	6	0.5	D-BU/GY	636	II	—

X133 Battery Cable Jumper to Power Steering Jumper Harness (1500)





Connector Part Information

Harness Type: Battery Cable Jumper

OEM Connector: 13582139

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F Sealed (BK)

Connector Part Information

Harness Type: Power Steering Jumper

OEM Connector: 28287534

Service Connector: Service by Harness – See Part Catalog

Description: 2-Way M (BK)

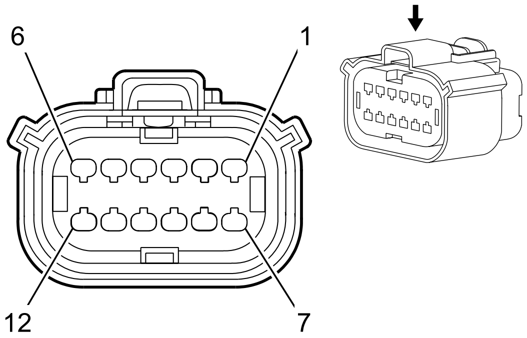
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Required	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	Not Required	Not Available	Not Available	Not Available	Not Available	Not Available

X133 Battery Cable Jumper to Power Steering Jumper Harness (1500)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	20	RD	842	I	-	Battery Positive Voltage	1	20	RD	842	I	-
2	20	BK	350	I	-	Ground	2	20	BK	350	II	-

X134 Chassis Harness to Ignition Coil Harness



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Connector Part Information

Harness Type: Chassis

OEM Connector: 13609715

Service Connector: 19178148

Description: 12-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Ignition Coil

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way M

Terminal Part Information

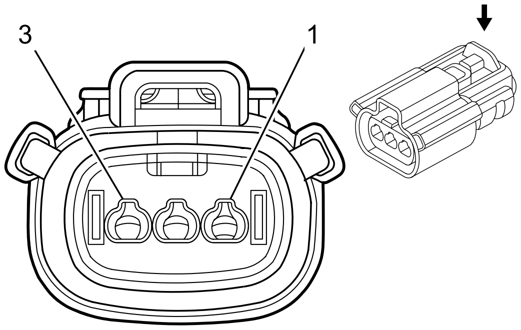
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575808	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

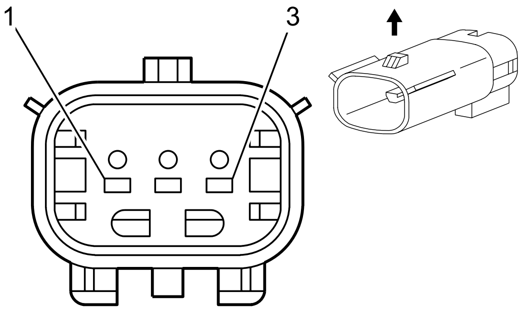
X134 Chassis Harness to Ignition Coil Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	—	—	—	—	—	Not Occupied	1	—	—	—	—	—
2	0.5	WH	2501	I	—	High Speed GMLAN Serial Data (-) (1)	2	0.5	WH	2501	II	—
3	0.5	D-BU	2500	I	—	High Speed GMLAN Serial Data (+) (1)	3	0.5	D-BU	2500	II	—
4	0.5	WH	6106	I	—	High Speed GMLAN Serial Data (-) (2)	4	0.5	WH	6106	II	—
5	0.5	D-BU/YE	6105	I	—	High Speed GMLAN Serial Data (+) (2)	5	0.5	D-BU/YE	6105	II	—

5	0.5					Serial Data (+) (2)	5	0.5			
6 - 7	—	—	—	—	—	Not Occupied	6 - 7	—	—	—	—	—
8	0.5	WH/D-BU	5986	I	—	Serial Data Communication Enable	8	0.5	WH/D-BU	5986	II	—
9	0.5	WH	2501	I	—	High Speed GMLAN Serial Data (-) (1)	9	0.5	WH	2501	II	—
10	0.5	D-BU	2500	I	—	High Speed GMLAN Serial Data (+) (1)	10	0.5	D-BU	2500	II	—
11	0.5	WH	6106	I	—	High Speed GMLAN Serial Data (-) (2)	11	0.5	WH	6106	II	—
12	0.5	D-BU/YE	6105	I	—	High Speed GMLAN Serial Data (+) (2)	12	0.5	D-BU/YE	6105	II	—

X135 Fuel Pressure Sensor Jumper Harness to Engine Harness





Connector Part Information

Harness Type: Fuel Pressure Sensor Jumper

OEM Connector: 33471-0301

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Engine

OEM Connector: 33481-0301

Service Connector: 13580232

Description: 3-Way M 150 MX Series (BK)

Terminal Part Information

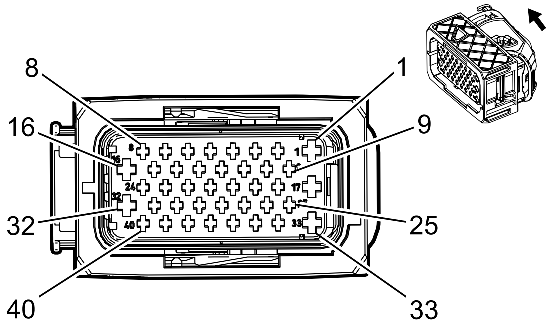
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

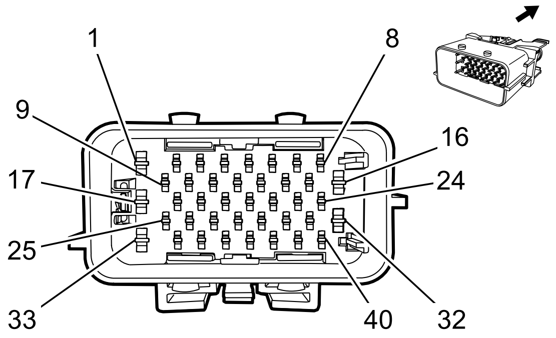
X135 Fuel Pressure Sensor Jumper Harness to Engine Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	—	2917	I	LML/LGH	Fuel Rail Pressure Sensor 5 Volt Reference	1	0.5	—	2917	II	LML
2	0.5	YE	2918	I	LML/LGH	Fuel Rail Pressure Sensor Signal	2	0.5	YE	2918	II	LML

3	0.5	OR/BK	2919	I	LML/LGH	Fuel Rail Pressure Sensor Low Reference	3	0.5	OR/BK	2919	II	LML

X138 Chassis Harness to Body Harness





Connector Part Information

Harness Type: Chassis

OEM Connector: 33138342

Service Connector: 13576549

Description: 40-Way F 1.5 DSQ, 2.8 ATS Series, Sealed (BK)

Connector Part Information

Harness Type: Body

OEM Connector: 13603208

Service Connector: 13576551

Description: 40-Way M 1.5 DSQ, 2.8 ATS Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578884	J-35616-14 (GN)	J-38125-560	Not Available	Not Available	Not Available	Not Available
II	13580829	J-35616-4A (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
III	13580834	J-35616-14 (GN)	J-38125-560	Not Available	Not Available	Not Available	Not Available
IV	13584463	J-35616-4A (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
V	13575380	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VI	13578881	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
VII	13578882	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VIII	13580827	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available

X138 Chassis Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type	Option	Function	Pin	Size	Color	Circuit	Terminal Type	Option

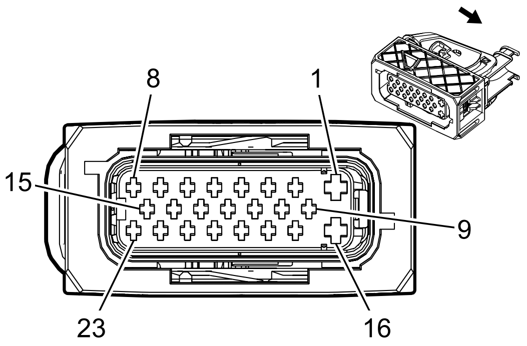
				ID							ID	
1	0.5	L-GN/BK	7633	IV	—	Integrated Trailer Brake Controller User Gain Signal	1	0.5	L-GN/BK	7633	VIII	—
2	0.5	L-GN/BN	2087	I	—	Combined Vehicle Inertial Sensor Supply Voltage	2	0.35	L-GN/BN	2087	VII	—
3	0.5	YE	7635	I	—	Integrated Trailer Brake Controller Manual Apply Signal	3	0.5	YE	7635	V	—
4	0.5	D-BU/RD	7632	I	—	Integrated Trailer Brake Controller Switch 5 Volt Reference	4	0.5	D-BU/RD	7632	V	—
5	0.5	BN	7634	I	—	Integrated Trailer Brake Controller Redundant Manual Apply Signal	5	0.5	BN	7634	V	—
6	0.5	BK/BN	7631	I	—	Integrated Trailer Brake Controller Switch Low Reference	6	0.5	BK/BN	7631	V	—
7	—	—	—	—	—	Not Occupied	7	—	—	—	—	—
8	0.5	L-GN	5060	I	—	Low Speed GMLAN Serial Data	8	0.5	L-GN	5060	V	—
9	0.5	BN/WH	2374	I	—	Object Sensor Control	9	0.5	BN/WH	2374	V	—
10	—	—	—	—	—	Not Occupied	10	—	—	—	—	—
11	0.5	YE	2375	I	—	Left Rear Corner Object Sensor Signal	11	0.5	YE	2375	V	—
12	0.5	YE/D-BU	2376	I	—	Left Rear Middle Object Sensor Signal	12	0.5	YE/D-BU	2376	V	—

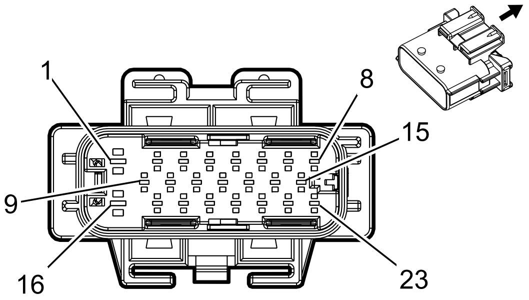
13	0.5	YE/VT	2378	I	—	Right Rear Corner Object Sensor Signal	13	0.5	YE/VT	2378	V	—
14	0.5	YE/RD	2377	I	—	Right Rear Middle Object Sensor Signal	14	0.5	YE/WH	2377	V	—
15	—	—	—	—	—	Not Occupied	15	—	—	—	—	—
16	0.5	L-GN/YE	6846	IV	—	Rear License Lamp Control	16	0.5	L-GN/YE	6846	VIII	—
17	0.5	WH/D-BU	5986	IV	—	Serial Data Communication Enable	17	0.5	WH/D-BU	5986	VIII	—
18	0.5	D-BU	2500	I	—	High Speed GMLAN Serial Data (+) (1)	18	0.5	D-BU	2500	V	—
19	0.5	WH	2501	I	—	High Speed GMLAN Serial Data (-) (1)	19	0.5	WH	2501	V	—
20	0.5	VT/YE	5985	I	—	Accessory Wakeup Serial Data	20	0.5	VT/YE	5985	V	—
21	0.5	BK/GY	2379	I	—	Object Sensor Low Reference	21	0.5	BK/GY	2379	V	—
22	—	—	—	—	—	Not Occupied	22	—	—	—	—	—
23	0.5	GY/BN	309	I	—	Right Park Lamp Control	23	0.5	GY/BN	309	V	—
24	0.75	BN/YE	294	III	—	Door Lock Actuator Unlock Control	24	0.75	BN/YE	294	V	—
		GY	295	III	—	Door Lock Actuator			GY	295	V	—

25	0.75	GY	295	III	—	Door Lock Actuator Lock Control	25	0.75	GY	295	V	—
26	0.5	D-BU/BK	7493	I	—	High Speed GMLAN Serial Data (+)(3)	26	0.5	D-BU/BK	7493	V	—
27	0.5	WH	7494	I	—	High Speed GMLAN Serial Data (-)(3)	27	0.5	WH	7494	V	—
28	—	—	—	—	—	Not Occupied	28	—	—	—	—	—
29	0.5	BK	2550	I	—	Ground	29	0.75	BK	2550	V	—
30	0.5	BK	6974	I	—	Camera Low Reference	30	0.5	BK	6974	V	—
31	—	—	—	—	—	Not Occupied	31	—	—	—	—	—
32	2.5	D-BU	47	II	—	Trailer Auxiliary Control	32	2.5	D-BU	47	VI	—
33	—	—	—	—	—	Battery Positive Voltage	33	2.5	RD/D-BU	1842	VI	—
34 - 35	—	—	—	—	—	Not Occupied	34 - 35	—	—	—	—	—
36	0.75	WH/VT	1430	III	—	Exterior Courtesy Lamp Control	36	0.75	WH/VT	1430	V	—
37	0.5	GY/YE	6972	I	—	Camera Signal 2 +	37	0.35	GY/YE	6972	VII	—
38	0.5	WH/D-BU	6973	I	—	Camera Signal 2	38	0.35	WH/D-BU	6973	VII	—
		BN/WH	7462	I	—	Running Boards Disable			D-BU/YE	6844	VII	—

39	0.5	BN/WH	7462	I	—	Running Boards Disable Signal	39	0.35	D-BU/YE	6844	VII	—
40	0.5	L-GN/WH	817	I	—	Vehicle Speed Signal	40	0.5	L-GN/GY	817	V	—

X150 Body Harness to Forward Lamp Harness (Extended Cab)





Connector Part Information

Harness Type: Body

OEM Connector: 15504708

Service Connector: 19300480

Description: 23-Way F 1.5 DSQ, 2.8 ATS Series, Sealed (BK)

Connector Part Information

Harness Type: Forward Lamp

OEM Connector: 13750011

Service Connector: 19301797

Description: 23-Way M 1.5, 2.8 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575389	J-35616-4A (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
II	13576369	J-35616-14 (GN)	J-38125-560	Not Available	Not Available	Not Available	Not Available
III	13575380	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
IV	13580827	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available

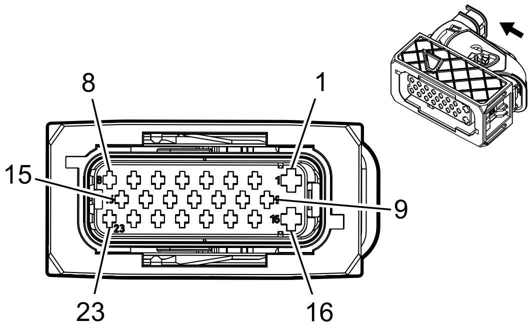
X150 Body Harness to Forward Lamp Harness (Extended Cab)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	BK/D-BU	61	I	—	Outside Ambient Temperature Sensor Low Reference	1	0.5	BK/D-BU	61	IV	—
2 - 3	—	—	—	—	—	Not Occupied	2 - 3	—	—	—	—	—

2 - 3	—	—	—	—	—	Not Occupied	2 - 3	—	—	—	—	—
4	0.5	YE/GY	5216	II	—	Front Parking Left Mid Sensor	4	0.5	YE/GY	5216	III	—
5	0.5	WH/GY	5217	II	—	Front Parking Right Corner Sensor	5	0.5	WH/GY	5217	III	—
6	0.5	VT/GY	5218	II	—	Front Parking Right Mid Sensor	6	0.5	VT/GY	5218	III	—
7	0.5	BK/D-BU	5214	II	—	Front Parking Sensor Low Reference	7	0.5	BK/D-BU	5214	III	—
8	0.5	VT/WH	5215	II	—	Front Parking Left Corner Sensor	8	0.5	VT/WH	5215	III	—
9 - 10	—	—	—	—	—	Not Occupied	9 - 10	—	—	—	—	—
11	0.35	OG/L-GN	1409	II	—	Right Front Discriminating Sensor Signal	11	0.5	OG/L-GN	1409	III	—
12	0.35	BK/OG	5600	II	—	Right Front Discriminating Sensor Low Reference	12	0.5	BK/OG	5600	III	—
13	—	—	—	—	—	Not Occupied	13	—	—	—	—	—
14	0.35	VT	185	II	—	Low Washer Fluid Indicator Control	14	0.5	VT	185	III	—
15	0.5	YE/VT	5213	II	—	Front Parking Left/Right/Mid Sensor	15	0.5	YE/VT	5213	III	—
16	0.35	D-BU/GY	636	I	—	Outside Ambient Air Temperature Sensor Signal	16	0.5	D-BU/GY	636	IV	—

17 - 19	—	—	—	—	—	Not Occupied	17 - 19	—	—	—	—	—
20	0.35 0.35	OG/YE OG/GY	354 6618	II	— —	Left Front Discriminating Sensor Signal Middle Front Discriminating Sensor Signal	20	0.5 0.5	OG/YE OG/GY	354 6618	III	— —
21	0.35 0.35	BK/OG BK/OG	5045 6619	II	— —	Left Front Discriminating Sensor Low Reference Middle Front Discriminating Sensor Low Reference	21	0.5 0.5	BK/OG BK/OG	5045 6619	III	— —
22	—	—	—	—	—	Hood Open Switch Signal	22	0.5	YE	5530	III	—
23	0.5	BN/L-GN	109	II	—	Hood Ajar Switch Signal	23	0.5	BN/L-GN	109	III	—

X150 Body Harness to Forward Lamp Harness (Regular Cab)



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Connector Part Information

Harness Type: Body

OEM Connector: 13674800

Service Connector: 19300480

Description: 23-Way F 1.5 DSQ, 2.8 AST Series, Sealed (BK)

Connector Part Information

Harness Type: Forward Lamp

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 23-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575389	J-35616-4A (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
II	13576369	J-35616-14 (GN)	J-38125-560	Not Available	Not Available	Not Available	Not Available
III	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

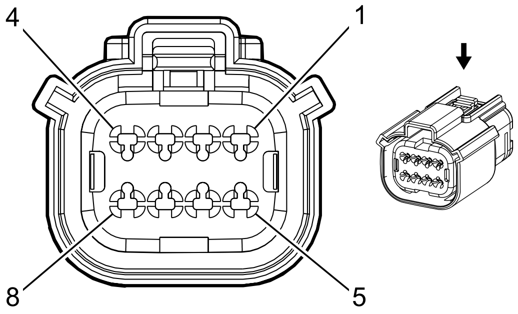
X150 Body Harness to Forward Lamp Harness (Regular Cab)

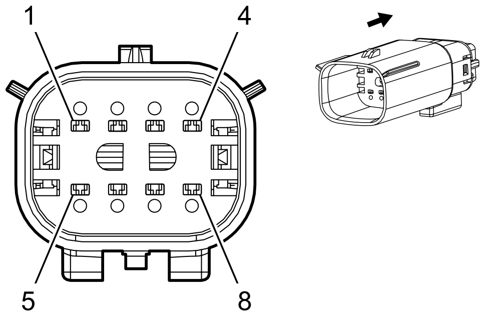
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	BK/D-BU	61	I	—	Outside Ambient Temperature Sensor Low Reference	1	0.35	BK/D-BU	61	III	—
2 - 3	—	—	—	—	—	Not Occupied	2 - 3	—	—	—	—	—
4	0.5	YE/GY	5216	II	—	Front Parking Left Mid Sensor	4	0.5	YE/GY	5216	III	—
5	0.5	WH/GY	5217	II	—	Front Parking Right Corner Sensor	5	0.5	WH/GY	5217	III	—

6	0.5	VT/GY	5218	II	—	Front Parking Right Mid Sensor	6	0.5	VT/GY	5218	III	—
7	0.5	BK/D-BU	5214	II	—	Front Parking Sensor Low Reference	7	0.5	BK/D-BU	5214	III	—
8	0.5	VT/WH	5215	II	—	Front Parking Left Corner Sensor	8	0.5	VT/WH	5215	III	—
9 - 10	—	—	—	—	—	Not Occupied	9 - 10	—	—	—	—	—
11	0.35	OG/L-GN	1409	II	—	Right Front Discriminating Sensor Signal	11	0.35	OG/L-GN	1409	III	—
12	0.35	BK/OG	5600	II	—	Right Front Discriminating Sensor Low Reference	12	0.35	BK/OG	5600	III	—
13	—	—	—	—	—	Not Occupied	13	—	—	—	—	—
14	0.35	VT	185	II	—	Low Washer Fluid Indicator Control	14	0.35	VT	185	III	—
15	0.5	YE/VT	5213	II	—	Front Parking Left/Right/Mid Sensor	15	0.5	YE/VT	5213	III	—
16	0.35	D-BU/GY	636	I	—	Outside Ambient Air Temperature Sensor Signal	16	0.35	D-BU/GY	636	III	—
17 - 19	—	—	—	—	—	Not Occupied	17 - 19	—	—	—	—	—
20	0.35	OG/YE	354	II	—	Left Front Discriminating Sensor Signal	20	0.35	OG/YE	354	III	—
21	0.35	BK/OG	5045	II	—	Left Front Discriminating Sensor Low Reference	21	0.35	BK/OG	5045	III	—

22	0.5	YE	5530	II	—	Hood Open Switch Signal	22	0.5	YE	5530	III	—
23	0.5	BN/L-GN	109	II	—	Hood Ajar Switch Signal	23	0.5	BN/L-GN	109	III	—

X154 Engine Harness to Camshaft Position Sensor Jumper Harness





Connector Part Information

Harness Type: Engine

OEM Connector: 13884361

Service Connector: 19301723

Description: 8-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Camshaft Position Sensor Jumper

OEM Connector: 13790317

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X154 Engine Harness to Camshaft Position Sensor Jumper Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	GY/D-BU	5300	I	—	Camshaft Position Intake Sensor Control (1)	1	0.5	GY/D-BU	5300	II	—
2	0.5	BK/L-GN	5301	I	—	Camshaft Position Intake Sensor Low Reference (1)	2	0.5	BK/L-GN	5301	II	—

3	0.5	YE/VT	5275	I	—	Camshaft Position Intake Sensor (1)	3	0.5	YE/VT	5275	II	—
4	0.5	D-BU	179	I	—	Oil Pump Command Signal	4	0.5	D-BU	179	II	—
5	0.5	VT/BN	5284	I	—	Camshaft Phaser Intake Solenoid (1)	5	0.5	VT/BN	5284	II	—
6	0.5	BK/BN	6753	I	—	Cam Phaser W Low Reference	6	0.5	BK/BN	6753	II	—
7	0.75	VT/D-BU	5293	I	—	Powertrain Main Relay Fused Supply (4)	7	0.5	VT/D-BU	5293	II	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—

X158 Auxilary Battery Harness to Engine Harness (K4B or K4D)

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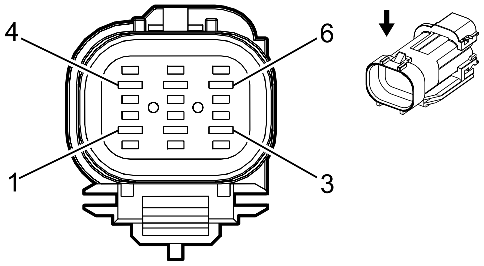


Connector Part Information

Harness Type: Auxilary Battery

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F

Connector Part Information

Harness Type: Engine

OEM Connector: 13893482

Service Connector: 19329921

Description: 6-Way M 2.8 Series, Sealed (BK)

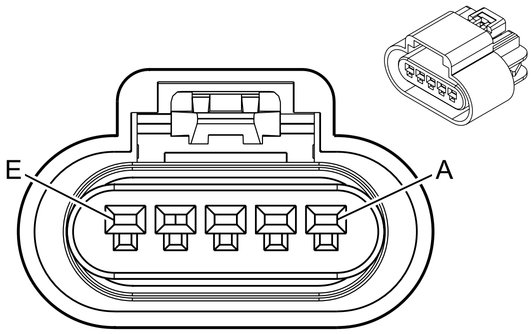
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X158 Auxilary Battery Harness to Engine Harness (K4B or K4D)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	VT/BN	300	I	—	Run Ignition 3 Voltage	1	0.5	VT/BN	300	II	—
3	0.5	RD/WH	3440	I	—	Battery Positive Voltage	3	0.5	RD/WH	3440	II	—
4	1	BK	550	I	—	Ground	4	1	BK	550	II	—
6	2.5	RD/L-GN	742	I	—	Battery Positive Voltage	6	2.5	RD/L-GN	742	II	—

X159 Engine Harness to Camshaft Position Sensor Jumper Harness (L96 or LC8)



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Connector Part Information

Harness Type: Engine

OEM Connector: 15326822

Service Connector: 13585858

Description: 5-Way F 150 GT Series, Sealed (BK)

Connector Part Information

Harness Type: Camshaft Position Sensor Jumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 5-Way M

Terminal Part Information

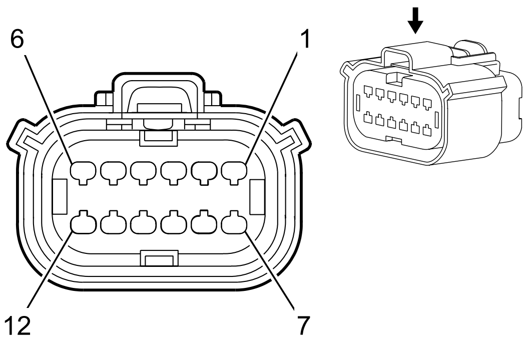
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X159 Engine Harness to Camshaft Position Sensor Jumper Harness (L96 or LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.5	GY/D-BU	5300	I	—	Camshaft Position Intake Sensor Control (1)	A	0.5	GY/D-BU	5300	II	—
B	0.5	BK/L-GN	5301	I	—	Camshaft Position Intake Sensor Low Reference (1)	B	0.5	BK/L-GN	5301	II	—
C	0.5	YE/VT	5275	I	—	Camshaft Position Intake Sensor (1)	C	0.5	YE/VT	5275	II	—
D	0.5	VT/BN	5284	I	—	Camshaft Phaser Intake Solenoid (1)	D	0.5	VT/BN	5284	II	—

E	0.5	BK/BN	6753	I	—	Cam Phaser W Low Reference	E	0.5	BK/BN	6753	II	—

X160 Engine Harness to Odd Fuel Injector Harness (1500)



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Connector Part Information

Harness Type: Engine

OEM Connector: 13653762

Service Connector: 13503528

Description: 12-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Odd Fuel Injector

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575808	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
II	13578813	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
III	19300635	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
IV	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

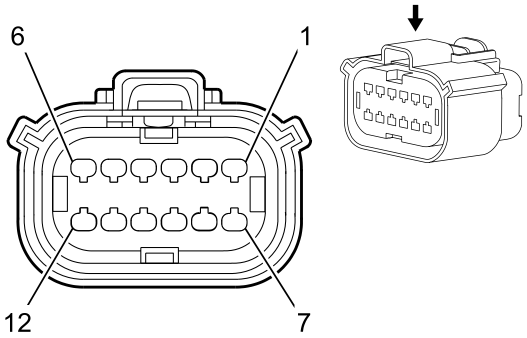
X160 Engine Harness to Odd Fuel Injector Harness (1500)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	BN/WH	4901	II	—	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 1	1	0.75	BN/WH	4901	IV	—
2	0.75 0.75	BN/WH L-GN/BK	4901 4903	I II	— —	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 1 Direct Fuel Injector (DFI) High Voltage Supply Cylinder 3	2	0.75 0.75	BN/WH L-GN/BK	4901 4903	IV	— —
		L-GN/BK	4903	I	—	Direct Fuel Injector			L-GN/BK	4903	IV	—

3	0.75 0.75	L-GN/BK L-GN/WH	4903 4905	I II	— —	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 3 Direct Fuel Injector (DFI) High Voltage Supply Cylinder 5	3	0.75 0.75	L-GN/BK L-GN/WH	4903 4905	IV	— —
4	0.75 0.75	L-GN/WH WH/YE	4905 4907	I II	— —	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 5 Direct Fuel Injector (DFI) High Voltage Supply Cylinder 7	4	0.75 0.75	L-GN/WH WH/YE	4905 4907	IV	— —
5	0.75 0.75	BN BN	4801 4801	I II	— —	Direct Fuel Injector (DFI) High Voltage Control Cylinder 1	5	0.75	BN	4801	IV	—
6	0.5 0.5	BN/YE BN/YE	2161 2161	II III	— —	Fuel Rail Pressure Sensor 2 Signal	6	0.5	BN/YE	2161	IV	—
7	0.75	L-GN	4803	II	—	Direct Fuel Injector (DFI) High Voltage Control Cylinder 3	7	0.75	L-GN	4803	IV	—
8	0.75 0.75	L-GN WH/L-GN	4803 4805	I II	— —	Direct Fuel Injector (DFI) High Voltage Control Cylinder 3 Direct Fuel Injector (DFI) High Voltage Control Cylinder 5	8	0.75 0.75	L-GN WH/L-GN	4803 4805	IV	— —
9	0.75	WH/L-GN YE/GY	4805 4807	I II	— —	Direct Fuel Injector (DFI) High Voltage Control Cylinder 5	9	0.75	WH/L-GN YE/GY	4805 4807	IV	— —

	0.75					Direct Fuel Injector (DFI) High Voltage Control Cylinder 7		0.75				
10	0.5 0.5	BN/RD BN/RD	2917 2917	II III	— —	Fuel Rail Pressure Sensor 5 Volt Reference	10	0.5	BN/RD	2917	IV	—
11	0.5 0.5	D-BU/WH D-BU/WH	2918 2918	II III	— —	Fuel Rail Pressure Sensor Signal	11	0.5	D-BU/WH	2918	IV	—
12	0.5 0.5	BK/L-GN BK/L-GN	2919 2919	II III	— —	Fuel Rail Pressure Sensor Low Reference	12	0.5	BK/L-GN	2919	IV	—

X161 Engine Harness to Even Fuel Injector Harness (L83/L86/L8B)



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Connector Part Information

Harness Type: Engine

OEM Connector: 13922706

Service Connector: 13503528

Description: 12-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Even Fuel Injector

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way M

Terminal Part Information

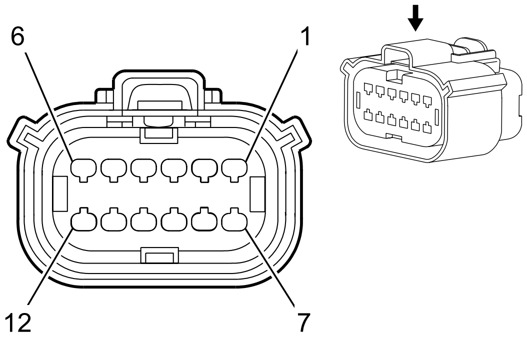
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578813	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X161 Engine Harness to Even Fuel Injector Harness (L83/L86/L8B)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	BN/L-GN	4902	I	—	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 2	1	0.75	BN/L-GN	4902	II	—
2	0.75	D-BU/WH	4904	I	—	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 4	2	0.75	D-BU/WH	4904	II	—
3	0.75	VT	4906	I	—	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 6	3	0.75	VT	4906	II	—
4	0.75	WH/L-GN	4908	I	—	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 8	4	0.75	WH/L-GN	4908	II	—

5	0.75	D-BU	4802	I	—	Direct Fuel Injector (DFI) High Voltage Control Cylinder 2	5	0.75	D-BU	4802	II	—
6 - 7	—	—	—	—	—	Not Occupied	6 - 7	—	—	—	—	—
8	0.75	GY/D-BU	4804	I	—	Direct Fuel Injector (DFI) High Voltage Control Cylinder 4	8	0.75	GY/D-BU	4804	II	—
9	0.75	L-GN/VT	4806	I	—	Direct Fuel Injector (DFI) High Voltage Control Cylinder 6	9	0.75	L-GN/VT	4806	II	—
10	0.75	GY	4808	I	—	Direct Fuel Injector (DFI) High Voltage Control Cylinder 8	10	0.75	GY	4808	II	—
11	0.75	VT/BK	7300	I	—	High Pressure Fuel Pump Actuator Low - Control	11	0.75	VT/BK	7300	II	—
12	0.75	YE	7301	I	—	High Pressure Fuel Pump Actuator High - Control	12	0.75	YE	7301	II	—

X161 Engine Harness to Even Fuel Injector Harness (LV1/LV3)



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Connector Part Information

Harness Type: Engine

OEM Connector: 13863397

Service Connector: 19329931

Description: 12-Way F 1.5 Series, Sealed (BK)

Connector Part Information

Harness Type: Even Fuel Injector

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way M

Terminal Part Information

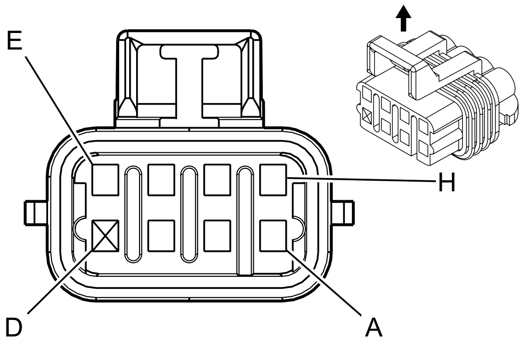
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575808	J-35616-2A (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

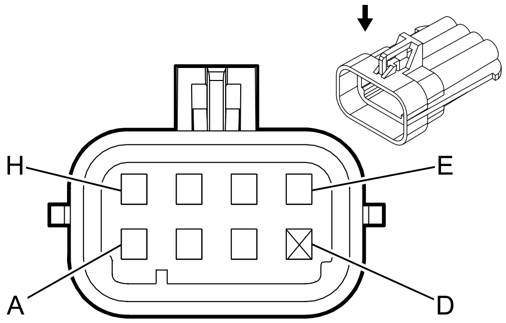
X161 Engine Harness to Even Fuel Injector Harness (LV1/LV3)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	—	—	—	—	—	Not Occupied	1	—	—	—	—	—
2	0.75	BN/L-GN	4902	I	—	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 2	2	0.75	BN/L-GN	4902	II	—
3	0.75	D-BU/WH	4904	I	—	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 4	3	0.75	D-BU/WH	4904	II	—
4	0.75	VT	4906	I	—	Direct Fuel Injector (DFI) High Voltage Supply Cylinder 6	4	0.75	VT	4906	II	—
5	0.75	D-BU	4802	I	—	Direct Fuel Injector (DFI) High Voltage	5	0.75	D-BU	4802	II	—

						(DFI) High Voltage Control Cylinder 2					
6 - 7	—	—	—	—	—	Not Occupied	6 - 7	—	—	—	—	—
8	0.75	GY/D-BU	4804	I	—	Direct Fuel Injector (DFI) High Voltage Control Cylinder 4	8	0.75	GY/D-BU	4804	II	—
9	0.75	L-GN/VT	4806	I	—	Direct Fuel Injector (DFI) High Voltage Control Cylinder 6	9	0.75	L-GN/VT	4806	II	—
10	0.75	VT/BK	7300	I	—	High Pressure Fuel Pump Actuator Low - Control	10	0.75	VT/BK	7300	II	—
11	0.75	YE	7301	I	—	High Pressure Fuel Pump Actuator High - Control	11	0.75	YE	7301	II	—
12	—	—	—	—	—	Not Occupied	12	—	—	—	—	—

X170 Engine Harness to Ignition Coil Harness





Connector Part Information

Harness Type: Engine

OEM Connector: 12047938

Service Connector: 13580883

Description: 8-Way F 150 Metri-Pack Series, Sealed (L-GY)

Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15496016

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way M 150 Metri-Pack Series (GY)

Terminal Part Information

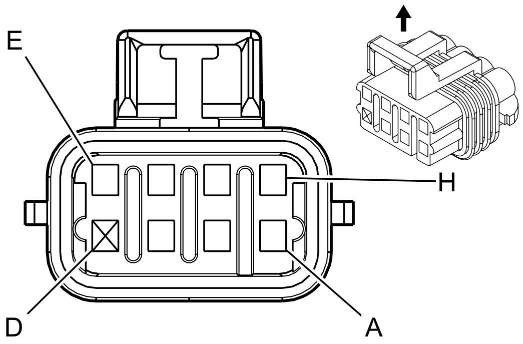
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

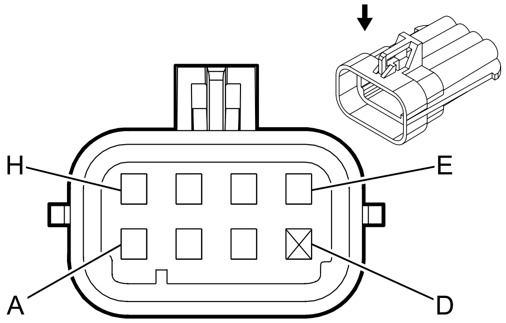
X170 Engine Harness to Ignition Coil Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.75	BK	350	I	—	Ground	A	0.8	BK	151	II	—
B	0.5	L-GN/GY	2127	I	—	Ignition Control (7)	B	0.5	RD	2127	II	—

C	0.5	D-BU/GY	2125	I	—	Ignition Control (5)	C	0.5	D-GN	2125	II	—
E	0.5	BK/D-BU	2129	I	—	Ignition Control Low Reference Bank 1	E	0.5	BN	2129	II	—
F	0.5	L-GN/D-BU	2123	I	—	Ignition Control (3)	F	0.5	L-BU	2123	II	—
G	0.5	D-BU/VT	2121	I	—	Ignition Control (1)	G	0.5	PU	2121	II	—
H	0.75	VT/D-BU	5291	I	—	Powertrain Main Relay Fused Supply (2)	H	0.8	PK	39	II	—

X171 Engine Harness to Ignition Coil Harness





Connector Part Information

Harness Type: Engine

OEM Connector: 12047938

Service Connector: 13580883

Description: 8-Way F 150 Metri-Pack Series, Sealed (L-GY)

Connector Part Information

Harness Type: Ignition Coil

OEM Connector: 15496016

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way M 150 Metri-Pack Series (GY)

Terminal Part Information

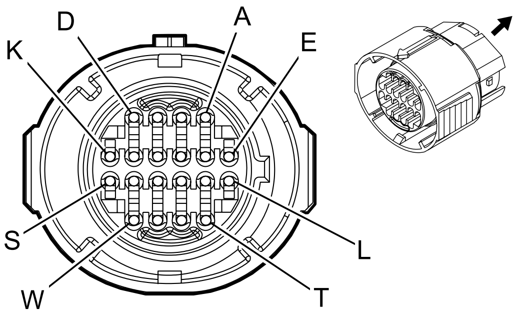
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X171 Engine Harness to Ignition Coil Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.75	BK	350	I	—	Ground	A	0.8	BK	151	II	—
B	0.5	D-BU/WH	2122	I	—	Ignition Control (2)	B	0.5	RD	2127	II	—

C	0.5	YE/D-BU	2124	I	—	Ignition Control (4)	C	0.5	D-GN	2125	II	—
E	0.5	BK/GY	2130	I	—	Ignition Control Low Reference Bank 2	E	0.5	BN	2129	II	—
F	0.5	BN/D-BU	2126	I	—	Ignition Control (6)	F	0.5	L-BU	2123	II	—
G	0.5	VT/WH	2128	I	—	Ignition Control (8)	G	0.5	PU	2121	II	—
H	0.75	VT/D-BU	5292	I	—	Powertrain Main Relay Fused Supply (3)	H	0.8	PK	39	II	—

X175 Engine Harness to Chassis Harness (LML)



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Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 13603424

Service Connector: 13503285

Description: 20-Way F 100W Micro-Pack Series, Sealed (BK)

Connector Part Information

Harness Type: Transmission

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13579969	J-35616-6 (BN)	J-38125-33	12084913	18	W	W
II	19301406	J-35616-6 (BN)	J-38125-33	12084912	17	W	W
III	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

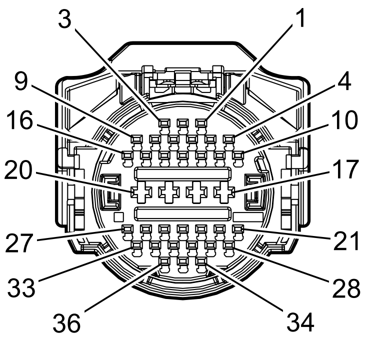
X175 Engine Harness to Chassis Harness (LML)

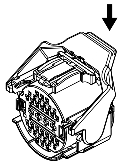
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.75	WH/L-GN	1222	II	—	1 Shift Solenoid Valve Control	A	0.75	WH/L-GN	1222	III	—
B	0.75	YE/BK	1223	II	—	2 Shift Solenoid Valve Control	B	0.75	YE/BK	1223	III	—
C	0.75	WH/BN	2527	II	—	Shift Solenoid Control (5)	C	0.75	WH/BN	2527	III	—
D	0.75	PU/GY	1224	II	—	Transmission Fluid Pressure Switch Signal	D	0.75	PU/GY	1224	III	—

D	0.75					Pressure Switch Signal Bit 1	D	0.75			
E	0.75	WH/BN	1226	II	—	Transmission Fluid Pressure Switch Signal Bit 3	E	0.75	WH/BN	1226	III	—
F	0.75	L-GN/VT	1225	II	—	Transmission Fluid Pressure Switch Signal Bit 2	F	0.75	L-GN/VT	1225	III	—
G	0.75	BN/WH	585	II	—	Transmission Oil Temperature Sensor Signal	G	0.75	BN/WH	585	III	—
H	0.75	BK/BN	586	II	—	Transmission Oil Temperature Sensor Low Reference	H	0.75	BK/BN	586	III	—
J	0.75	GY	6402	II	—	Clutch C Control	J	0.75	GY	6402	III	—
K	0.75	L-GN/BK	2529	II	—	Transmission Fluid Pressure Switch Signal Bit 4	K	0.75	L-GN/BK	2529	III	—
L	0.75	GY/BN	6388	II	—	Transmission High Side Driver 2 Signal	L	0.75	GY/BN	6388	III	—
M	0.75	BN	6400	II	—	Clutch A Control	M	0.75	BN	6400	III	—
N	0.75	L-GN/GY	6387	II	—	Transmission High Side Driver 1 Signal Driver	N	0.75	L-GN/GY	6387	III	—
P	0.75	WH	4508	II	—	Transmission Clutch G Control	P	0.75	WH	4508	III	—
R	0.5	WH/GY	1786	I	—	Transmission Park/Neutral Signal (1)	R	0.5	WH/GY	1786	III	—

R	0.5					Park/Neutral Signal (1)	R	0.5			
S	0.75	D-BU	6401	II	—	Clutch B Control	S	0.75	D-BU	6401	III	—
T	0.5	WH/BK	5983	I	—	PRNDL C Signal	T	0.5	WH/BK	5983	III	—
U	0.5	GY/BN	5982	I	—	PRNDL B Signal	U	0.5	GY/BN	5982	III	—
V	0.5	VT/WH	5981	I	—	PRNDL A Signal	V	0.5	VT/WH	5981	III	—
W	0.5	GY/WH	4168	I	—	PRNDL P Signal	W	0.5	GY/WH	4168	III	—

X175 Engine Harness to Engine Harness (L83/L86)





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Connector Part Information

Harness Type: Engine

OEM Connector: 15504573

Service Connector: 19329922

Description: 36-Way F 1.2 MCON-CB, 2.8 MCP Series, Sealed (BK)

Connector Part Information

Harness Type: Engine

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 36-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19119772	J-35616-35 (VT)	J-38125-557	Not Available	Not Available	Not Available	Not Available
II	19300445	J-35616-16 (LT GN)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X175 Engine Harness to Engine Harness (L83/L86)

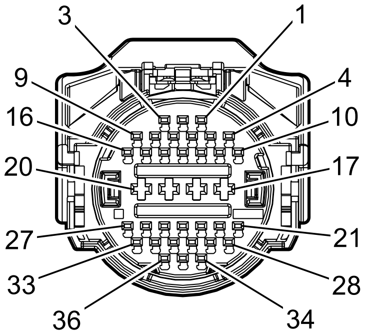
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	L-GN/WH	6380	II	—	TCC On/Off Solenoid A Control	1	0.5	L-GN/WH	6380	III	—
2	—	—	—	—	—	Not Occupied	2	—	—	—	—	—
3	0.5	YE/BN	6404	II	—	Clutch E Control	3	0.5	YE/BN	6404	III	—
4	0.5	GY/L-GN	6403	II	—	Clutch D Control	4	0.5	GY/L-GN	6403	III	—

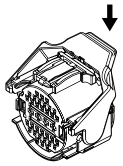
5	0.5	BN	6400	II	—	Clutch A Control	5	0.5	BN	6400	III	—
6	0.5	D-BU	6401	II	—	Clutch B Control	6	0.5	D-BU	6401	III	—
7	0.5	YE/BN	6210	II	—	TCC On/Off Solenoid B Control	7	0.5	YE/BN	6210	III	—
8 - 9	—	—	—	—	—	Not Occupied	8 - 9	—	—	—	—	—
10	0.5	GY	6402	II	—	Clutch C Control	10	0.5	GY	6402	III	—
11	0.5	BK/BN	586	II	—	Transmission Oil Temperature Sensor Low Reference	11	0.5	BK/BN	586	III	—
12	0.5	BN/WH	585	II	—	Transmission Oil Temperature Sensor Signal	12	0.5	BN/WH	585	III	—
13	0.5	WH	4508	II	—	Transmission Clutch G Control	13	0.5	WH	4508	III	—
14	0.5	WH/D-BU	4507	II	—	Transmission Clutch H Control	14	0.5	WH/D-BU	4507	III	—
15 - 17	—	—	—	—	—	Not Occupied	15 - 17	—	—	—	—	—
18	0.75	L-GN/GY	6387	I	—	Transmission High Side Driver 1 Signal Driver	18	0.75	L-GN/GY	6387	III	—
19	0.75	GY/BN	6388	I	—	Transmission High Side Driver 2 Signal	19	0.75	GY/BN	6388	III	—
20	—	—	—	—	—	Not Occupied	20	—	—	—	—	—

21	0.5	WH/BK	5983	II	—	PRNDL C Signal	21	0.5	WH/BK	5983	III	—
22	0.5	VT/WH	5981	II	—	PRNDL A Signal	22	0.5	VT/WH	5981	III	—
23	0.5	GY/WH	4168	II	—	PRNDL P Signal	23	0.5	GY/WH	4168	III	—
24	0.5	GY/D-BU	6358	II	—	Output Speed Signal	24	0.5	GY/D-BU	6358	III	—
25	0.5	YE/L-GN	4170	II	—	Transmission Position Sensor B 9 Volt Reference	25	0.5	YE/L-GN	4170	III	—
26	0.5	L-GN/YE	6353	II	—	Input Speed Signal	26	0.5	L-GN/YE	6353	III	—
27	0.5	YE/D-BU	4171	II	—	Transmission Position Sensor A 9 Volt Reference	27	0.5	YE/D-BU	4171	III	—
28	0.5	GY/BN	5982	II	—	PRNDL B Signal	28	0.5	GY/BN	5982	III	—
29	0.5	YE/D-BU	4171	II	—	Transmission Position Sensor A 9 Volt Reference	29	0.5	YE/D-BU	4171	III	—
30	0.5	BK/GY	3927	II	—	IMS Mode Switch Low Reference	30	0.5	BK/GY	3927	III	—
31	0.5	YE/L-GN	4170	II	—	Transmission Position Sensor B 9 Volt Reference	31	0.5	YE/L-GN	4170	III	—

32	0.5	L-GN/VT	4510	II	—	Transmission Intermediate Speed Signal	32	0.5	L-GN/VT	4510	III	—
33	—	—	—	—	—	Not Occupied	33	—	—	—	—	—
34	0.5	GY/YE	4169	II	—	PRNDL S Signal	34	0.5	GY/YE	4169	III	—
35	0.5	WH/GY	1786	II	—	Transmission Park/Neutral Signal (1)	35	0.5	WH/GY	1786	III	—
36	—	—	—	—	—	Not Occupied	36	—	—	—	—	—

X175 Engine Harness to Transmission Harness (L8B)





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Connector Part Information

Harness Type: Engine

OEM Connector: 15532799

Service Connector: 19332681

Description: 36-Way F 1.2 MCON-CB, 2.8 MCP Series, Sealed (BK)

Connector Part Information

Harness Type: Transmission

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 36-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19119772	J-35616-35 (VT)	J-38125-557	Not Available	Not Available	Not Available	Not Available
II	19300445	J-35616-16 (LT GN)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X175 Engine Harness to Transmission Harness (L8B)

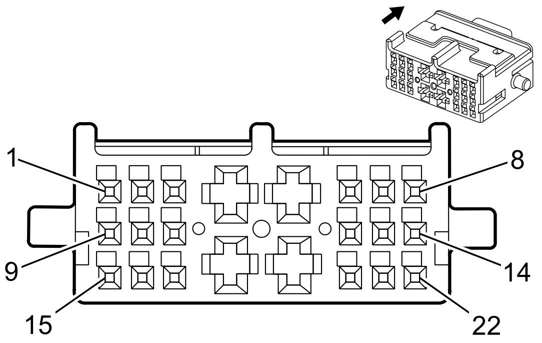
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	L-GN/WH	6380	II	—	TCC On/Off Solenoid A Control	1	0.5	L-GN/WH	6380	III	—
2	0.5	VT/D-BU	5294	II	—	Powertrain Main Relay Fused Supply (5)	2	0.5	VT/D-BU	5294	III	—
3	0.5	YE/BN	6404	II	—	Clutch E Control	3	0.5	YE/BN	6404	III	—
4	0.5	GY/L-GN	6403	II	—	Clutch D Control	4	0.5	GY/L-GN	6403	III	—

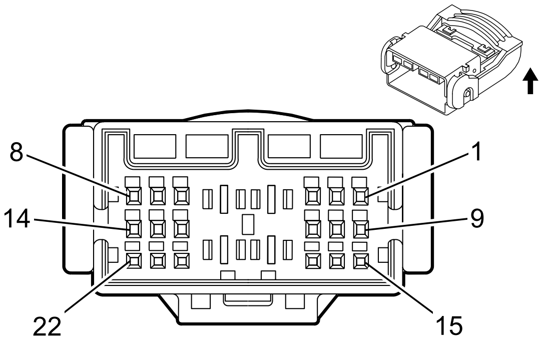
5	0.5	BN	6400	II	—	Clutch A Control	5	0.5	BN	6400	III	—
6	0.5	D-BU	6401	II	—	Clutch B Control	6	0.5	D-BU	6401	III	—
7	0.5	YE/BN	6210	II	—	TCC On/Off Solenoid B Control	7	0.5	YE/BN	6210	III	—
8	0.5	WH/GY	4578	II	—	Surge Accumulator Solenoid Low Side Control	8	0.5	WH/GY	4578	III	—
9	—	—	—	—	—	Not Occupied	9	—	—	—	—	—
10	0.5	GY	6402	II	—	Clutch C Control	10	0.5	GY	6402	III	—
11	0.5	BK/BN	586	II	—	Transmission Oil Temperature Sensor Low Reference	11	0.5	BK/BN	586	III	—
12	0.5	BN/WH	585	II	—	Transmission Oil Temperature Sensor Signal	12	0.5	BN/WH	585	III	—
13	0.5	WH	4508	II	—	Transmission Clutch G Control	13	0.5	WH	4508	III	—
14	0.5	WH/D-BU	4507	II	—	Transmission Clutch H Control	14	0.5	WH/D-BU	4507	III	—
15 - 17	—	—	—	—	—	Not Occupied	15 - 17	—	—	—	—	—
18	0.75	L-GN/GY	6387	I	—	Transmission High Side Driver 1 Signal Driver	18	0.75	L-GN/GY	6387	III	—

19	0.75	GY/BN	6388	I	—	Transmission High Side Driver 2 Signal	19	0.75	GY/BN	6388	III	—
20	—	—	—	—	—	Not Occupied	20	—	—	—	—	—
21	0.5	WH/BK	5983	II	—	PRNDL C Signal	21	0.5	WH/BK	5983	III	—
22	0.5	VT/WH	5981	II	—	PRNDL A Signal	22	0.5	VT/WH	5981	III	—
23	0.5	GY/WH	4168	II	—	PRNDL P Signal	23	0.5	GY/WH	4168	III	—
24	0.5	GY/D-BU	6358	II	—	Output Speed Signal	24	0.5	GY/D-BU	6358	III	—
25	0.5	YE/L-GN	4170	II	—	Transmission Position Sensor B 9 Volt Reference	25	0.5	YE/L-GN	4170	III	—
26	0.5	L-GN/YE	6353	II	—	Input Speed Signal	26	0.5	L-GN/YE	6353	III	—
27	0.5	YE/D-BU	4171	II	—	Transmission Position Sensor A 9 Volt Reference	27	0.5	YE/D-BU	4171	III	—
28	0.5	GY/BN	5982	II	—	PRNDL B Signal	28	0.5	GY/BN	5982	III	—
29	0.5	YE/D-BU	4171	II	—	Transmission Position Sensor A 9 Volt Reference	29	0.5	YE/D-BU	4171	III	—
30	0.5	BK/GY	3927	II	—	IMS Mode Switch Low	30	0.5	BK/GY	3927	III	—

30	0.5					Reference	30	0.5				
31	0.5	YE/L-GN	4170	II	—	Transmission Position Sensor B 9 Volt Reference	31	0.5	YE/L-GN	4170	III	—
32	0.5	L-GN/VT	4510	II	—	Transmission Intermediate Speed Signal	32	0.5	L-GN/VT	4510	III	—
33	—	—	—	—	—	Not Occupied	33	—	—	—	—	—
34	0.5	GY/YE	4169	II	—	PRNDL S Signal	34	0.5	GY/YE	4169	III	—
35	0.5	WH/GY	1786	II	—	Transmission Park/Neutral Signal (1)	35	0.5	WH/GY	1786	III	—
36	—	—	—	—	—	Not Occupied	36	—	—	—	—	—

X176 Transmission Harness to Transmission Harness (M5U)





Connector Part Information

Harness Type: Transmission Case

OEM Connector: 1897543–1

Service Connector: Service by Harness — See Part Catalog

Description: 22–Way F 0.64 Micro Quadlock Series, 2.8 MCP Series (NA)

Connector Part Information

Harness Type: Transmission Control

OEM Connector: 1897540–1

Service Connector: Service by Harness — See Part Catalog

Description: 22–Way M 0.64 Micro Quadlock Series, 2.8 MCP Series (NA)

Terminal Part Information

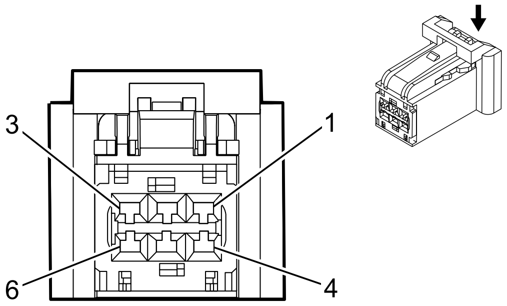
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (L-BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-35 (VT)	J-38125-557	Not Available	Not Available	Not Available	Not Available
III	Not Available	J-35616-65B (L-BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
IV	Not Available	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available

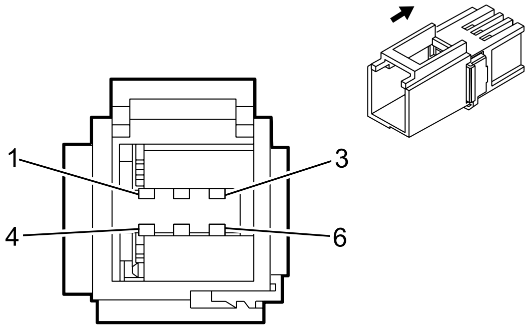
X176 Transmission Harness to Transmission Harness (M5U)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	GN/WH	6380	I	-	TCC On/Off Solenoid A Control	1	0.5	GN/WH	6380	III	-
2	0.5	VT/WH	5981	I	-	PRNDL A Signal	2	0.5	VT/WH	5981	III	-

3	0.5	GY/BN	5982	I	-	PRNDL B Signal	3	0.5	GY/BN	5982	III	-
4	2.5	GN/GY	6387	II	-	Transmission High Side Driver 1 Signal Driver	4	2.5	GN/GY	6387	IV	-
5	0.5	YE/BU	4171	II	-	Transmission Position Sensor A 9 Volt Reference	5	0.5	YE/BU	4171	IV	-
6	0.5	GY/YE	4169	I	-	PRNDL S Signal	6	0.5	GY/YE	4169	III	-
7	0.5	WH/BU	4507	I	-	Transmission Clutch H Control	7	0.5	WH/BU	4507	III	-
8	0.5	GY/GN	6403	I	-	Clutch D Control	8	0.5	GY/GN	6403	III	-
9	0.5	WH	4508	I	-	Transmission Clutch G Control	9	0.5	WH	4508	III	-
10	0.5	YE/BN	6210	I	-	TCC On/Off Solenoid B Control	10	0.5	YE/BN	6210	III	-
11	0.5	WH/BK	5983	I	-	PRNDL C Signal	11	0.5	WH/BK	5983	III	-
12	0.5	WH/GY	1786	I	-	Transmission Park/Neutral Signal (1)	12	0.5	WH/GY	1786	III	-
13	0.5	GY	6402	I	-	Clutch C Control	13	0.5	GY	6402	III	-
14	0.5	YE/BN	6404	I	-	Clutch E Control	14	0.5	YE/BN	6404	III	-
15	0.5	BN/WH	585	I	-	Transmission Oil Temperature Sensor Signal	15	0.5	BK/BN	585	III	-
16	0.5	BK/BN	586	I	-	Transmission Oil Temperature Sensor Low Reference	16	0.5	BK/BN	586	III	-
17	0.5	GY/WH	4168	I	-	PRNDL P Signal	17	0.5	GY/WH	4168	III	-
18	2.5	GY/BN	6388	II	-	Transmission High Side Driver 2 Signal	18	2.5	GY/BN	6388	IV	-
19	0.5	YE/GN	4170	II	-	Transmission Position Sensor B 9 Volt Reference	19	0.5	YE/GN	4170	IV	-
20	0.5	BK/GY	3927	I	-	IMS Mode Switch Low Reference	20	0.5	BK/GY	3927	III	-
21	0.5	BN	6400	I	-	Clutch A Control	21	0.5	BN	6400	III	-
22	0.5	BU	6401	I	-	Clutch B Control	22	0.5	BU	6401	III	-

X177 Transmission Harness to Transmission Harness (M5U)





Connector Part Information

Harness Type: Transmission Case

OEM Connector: 13960975

Service Connector: Service by Harness — See Part Catalog

Description: 6–Way M OCS 1.2 (WH)

Connector Part Information

Harness Type: Transmission Speed Sensor

OEM Connector: 13955963

Service Connector: Service by Component — See Part Catalog

Description: 6–Way M 0.64 II (WH)

Terminal Part Information

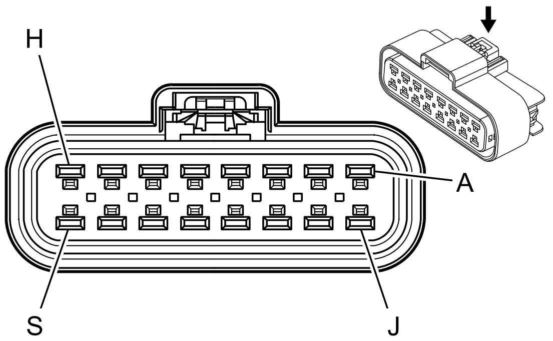
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-64B (LT BU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-65B (L-BU)	J-38125-553	Not Available	Not Available	Not Available	Not Available

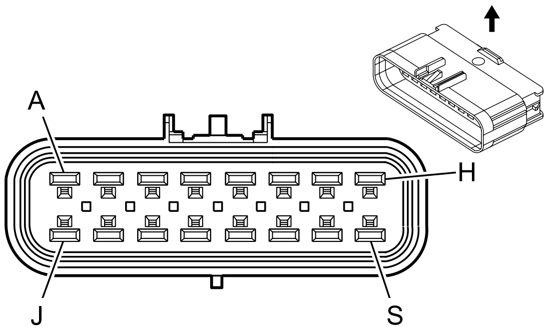
X177 Transmission Harness to Transmission Harness (M5U)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	GY/BU	6358	I	-	Output Speed Signal	1	0.5	YE	6358	II	-
2	0.5	YE/GN	4170	I	-	Transmission Position Sensor B 9 Volt Reference	2	0.5	RD	4170	II	-
3	0.5	YE/GN	4170	I	-	Transmission Position Sensor B 9 Volt Reference	3	0.5	WH	4170	II	-

4	0.5	YE/BU	4171	I	-	Transmission Position Sensor A 9 Volt Reference	4	0.5	WH	4171	II	-
5	0.5	GN/YE	6353	I	-	Input Speed Signal	5	0.5	GN	6353	II	-
6	0.5	GN/VT	4510	I	-	Transmission Intermediate Speed Signal	6	0.5	BK	4510	II	-

X178 CNG Engine Harness to CNG Rear Harness (LC8)





Connector Part Information

Harness Type: CNG Engine

OEM Connector: 15326666

Service Connector: 15326666

Description: 16-Way F 280 GT 5.8 Series, Sealed (BK)

Connector Part Information

Harness Type: CNG Rear

OEM Connector: 15326667

Service Connector: 88986347

Description: 16-Way M 280 GT 5.8 Series, Sealed (BK)

Terminal Part Information

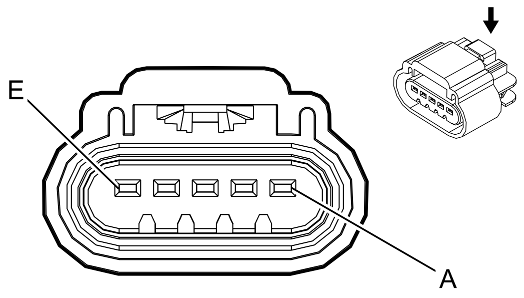
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-4A (PU)	J-38125-553	15304719	19	2	5
II	Not Available	J-35616-5 (PU)	J-38125-553	15304731	19	C	5

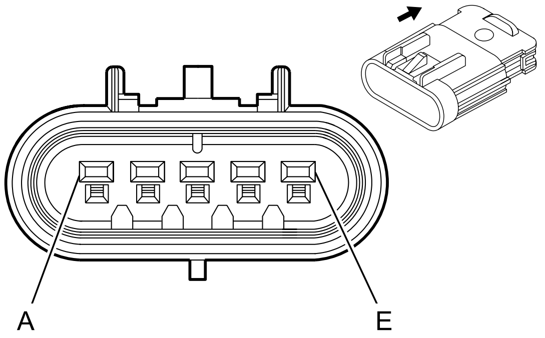
X178 CNG Engine Harness to CNG Rear Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.8	GN	-	I	-	CNG Cut-Off Solenoid Valve #2 Control	A	0.8	GN	-	II	-
B	-	-	-	-	-	Not Occupied	B	-	-	-	-	-
C	0.8	TN/BK	-	I	-	High Speed GMLAN Serial Data (+) (1)	C	0.8	TN/BK	-	II	-
D	0.8	BU/RD	-	I	-	CNG Tank Sensor Temperature Signal	D	0.8	BU/RD	-	II	-

E	0.8	GN/BK	-	I	-	Battery Positive	E	0.8	GN/BK	-	II	-
F	0.8	BU/OG	-	I	-	Coolant Temperature Input	F	0.8	BU/OG	-	II	-
G	0.8	BK	-	I	-	Ground	G	0.8	BK	-	II	-
H	0.8	GN/BK	-	I	-	Battery Positive	H	0.8	GN/BK	-	II	-
J	0.8	TN	-	I	-	High Speed GMLAN Serial Data (-) (1)	J	0.8	TN	-	II	-
K	-	-	-	-	-	Not Occupied	K	-	-	-	-	-
L	0.8	RD/WH	-	I	-	Alternative Fuel Tank Sensore Voltage Reference	L	0.8	RD/WH	-	II	-
M	0.8	BU/YE	-	I	-	Alternative Fuel Tank Pressure Signal	M	0.8	BU/YE	-	II	-
N	0.8	GY/BK	-	I	-	OEM Fuel Pump Voltage (OUT)	N	0.8	GY/BK	-	II	-
P	0.8	GY	-	I	-	OEM Fuel Pump Voltage (IN)	P	0.8	GY	-	II	-
R	0.8	PU	-	I	-	Fuel Pump Supply Voltage	R	0.8	PU	-	II	-
S	0.8	PU/BK	-	I	-	Fuel Pump Supply Voltage	S	0.8	PU/BK	-	II	-

X179 Engine Harness to CNG Engine Harness (LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 13827319

Service Connector: 13579601

Description: 5-Way F 150 GT Series, Sealed (GY)

Connector Part Information

Harness Type: CNG Engine

OEM Connector: 13519053

Service Connector: 13504593

Description: 5-Way M 150 GT Series, Sealed (BK)

Terminal Part Information

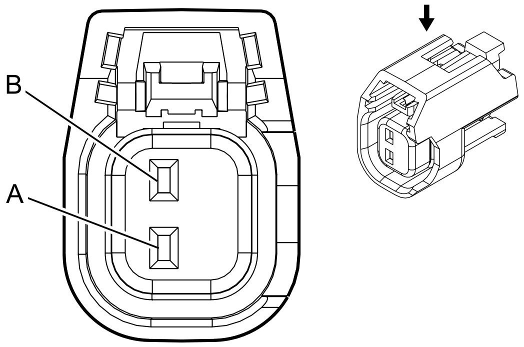
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-3 (GY)	J-38125-553	15326269	19	E	4

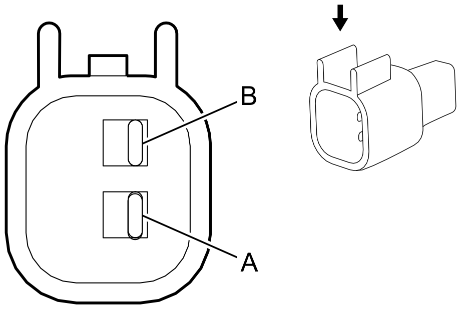
X179 Engine Harness to CNG Engine Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.5	BK/VT	2760	I	-	Induction Air Temperature Sensor Low Reference	A	0.5	BK	-	II	-
B	0.5	WH/BU	6289	I	-	Induction Air Temperature Sensor Signal	B	0.5	TN/BK	-	II	-
C	0.5	GN/WH	492	I	-	Mass Air Flow Sensor Signal	C	0.5	BK	-	II	-

D	0.5	VT/D-BU	5294	I	-	Powertrain Main Relay Fused Supply (4)	D	0.5	BK	-	II	-
E	0.5	BK/WH	451	I	-	Mass Air Flow Sensor Low Reference	E	0.5	BK	-	II	-

X181 Engine Harness to CNG Injector Harness (LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

Connector Part Information

Harness Type: CNG Injector

OEM Connector: EV6

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 150 GT Series, Sealed (BK)</

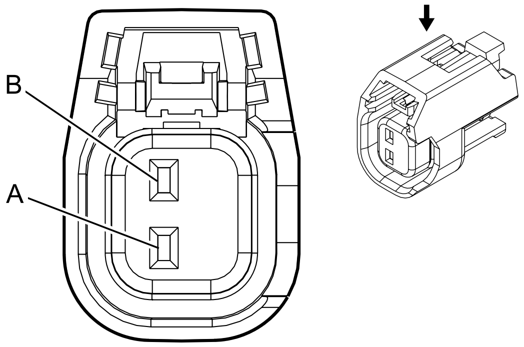
Terminal Part Information

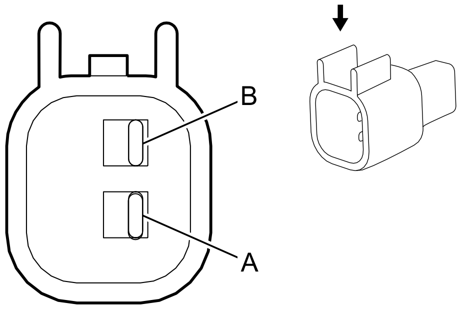
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-3 (GY)	J-38125-11A	7114-4103-08	9	NE	1

X181 Engine Harness to CNG Injector Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	VT/D-BU	5291	I	-	Powertrain Main Relay Fused Supply (2)	A	1	PK	-	II	-
B	0.5	L-GN/YE	1744	I	-	Fuel Injector Control (1)	B	1	TN	-	II	-

X182 Engine Harness to CNG Injector Harness (LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

Connector Part Information

Harness Type: CNG Injector

OEM Connector: EV6

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 150 GT Series, Sealed (BK)</

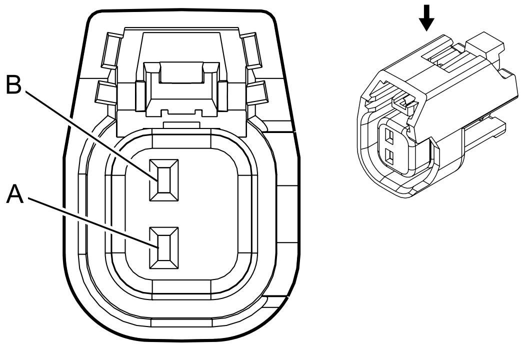
Terminal Part Information

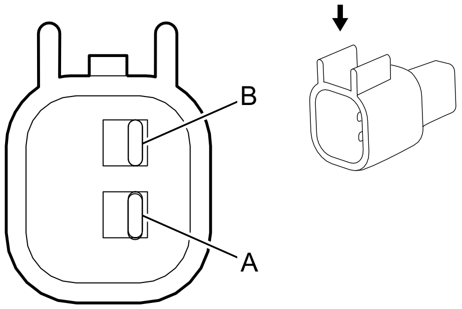
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-3 (GY)	J-38125-11A	7114-4103-08	9	NE	1

X182 Engine Harness to CNG Injector Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	VT/D-BU	5292	I	-	Powertrain Main Relay Fused Supply (3)	A	1	PK/WH	-	II	-
B	0.5	YE/WH	1745	I	-	Fuel Injector Control (2)	B	1	PK/BK	-	II	-

X183 Engine Harness to CNG Injector Harness (LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

Connector Part Information

Harness Type: CNG Injector

OEM Connector: EV6

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 150 GT Series, Sealed (BK)</

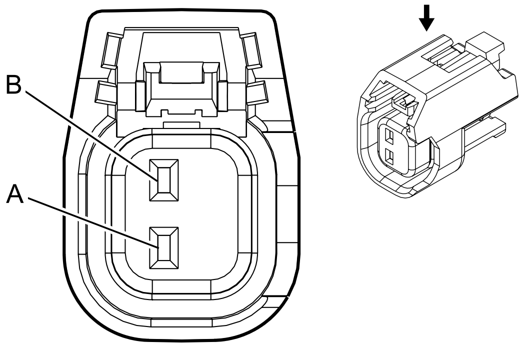
Terminal Part Information

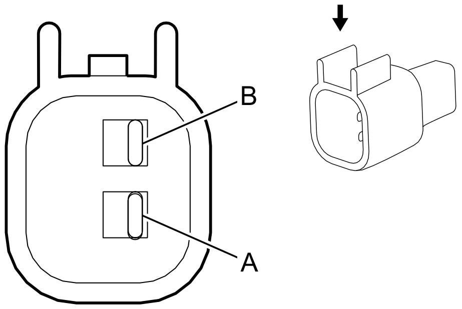
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-3 (GY)	J-38125-11A	7114-4103-08	9	NE	1

X183 Engine Harness to CNG Injector Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	VT/D-BU	5291	I	-	Powertrain Main Relay Fused Supply (2)	A	1	PK	-	II	-
B	0.5	BN/VT	1746	I	-	Fuel Injector Control (3)	B	1	TN/WH	-	II	-

X184 Engine Harness to CNG Injector Harness (LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

Connector Part Information

Harness Type: CNG Injector

OEM Connector: EV6

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 150 GT Series, Sealed (BK)</

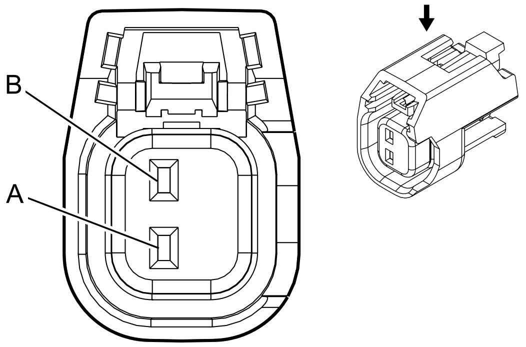
Terminal Part Information

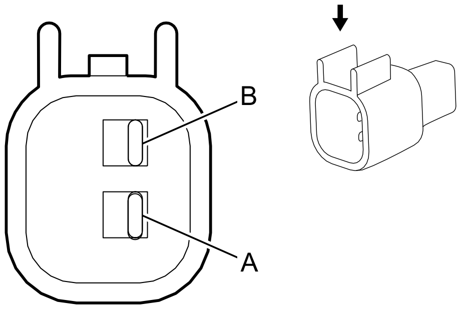
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-3 (GY)	J-38125-11A	7114-4103-08	9	NE	1

X184 Engine Harness to CNG Injector Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	VT/D-BU	5292	I	-	Powertrain Main Relay Fused Supply (3)	A	1	PK/WH	-	II	-
B	0.5	BN/YE	844	I	-	Fuel Injector Control (4)	B	1	OG/BK	-	II	-

X185 Engine Harness to CNG Injector Harness (LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

Connector Part Information

Harness Type: CNG Injector

OEM Connector: EV6

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 150 GT Series, Sealed (BK)</

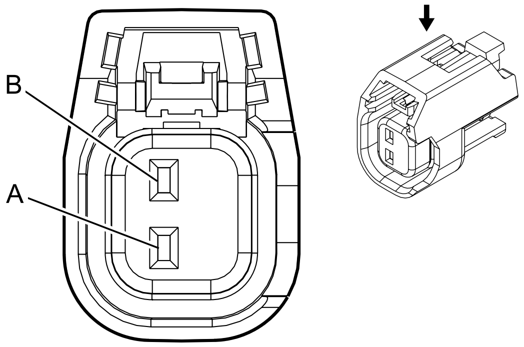
Terminal Part Information

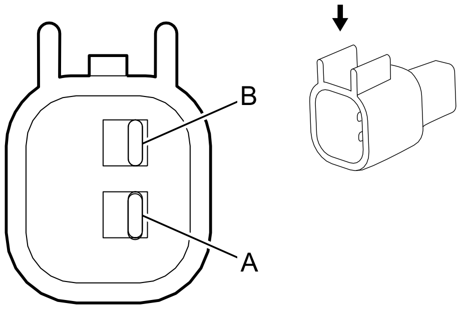
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-3 (GY)	J-38125-11A	7114-4103-08	9	NE	1

X185 Engine Harness to CNG Injector Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	VT/D-BU	5291	I	-	Powertrain Main Relay Fused Supply (2)	A	1	PK	-	II	-
B	0.5	BN/L-GN	845	I	-	Fuel Injector Control (5)	B	1	L-GN/BK	-	II	-

X186 Engine Harness to CNG Injector Harness (LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

Connector Part Information

Harness Type: CNG Injector

OEM Connector: EV6

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 150 GT Series, Sealed (BK)</

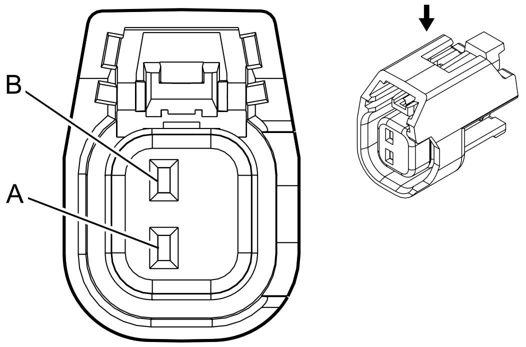
Terminal Part Information

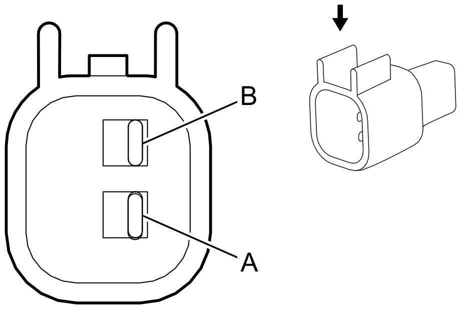
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-3 (GY)	J-38125-11A	7114-4103-08	9	NE	1

X186 Engine Harness to CNG Injector Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	VT/D-BU	5292	I	-	Powertrain Main Relay Fused Supply (3)	A	1	PK/WH	-	II	-
B	0.5	BN/D-BU	846	I	-	Fuel Injector Control (6)	B	1	L-BU/BK	-	II	-

X187 Engine Harness to CNG Injector Harness (LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

Connector Part Information

Harness Type: CNG Injector

OEM Connector: EV6

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 150 GT Series, Sealed (BK)</

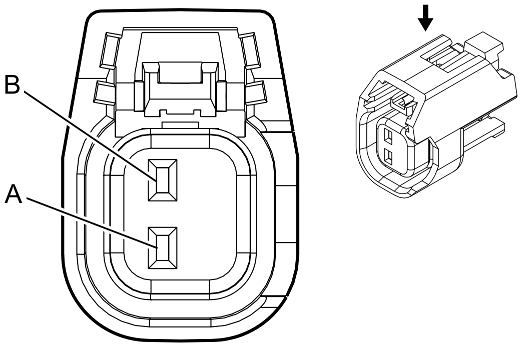
Terminal Part Information

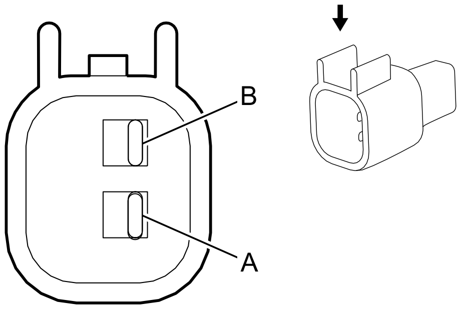
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-3 (GY)	J-38125-11A	7114-4103-08	9	NE	1

X187 Engine Harness to CNG Injector Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	VT/D-BU	5291	I	-	Powertrain Main Relay Fused Supply (2)	A	1	PK	-	II	-
B	0.5	BN/VT	877	I	-	Fuel Injector Control (7)	B	1	YE/BK	-	II	-

X188 Engine Harness to CNG Injector Harness (LC8)





Connector Part Information

Harness Type: Engine

OEM Connector: 15419715

Service Connector: 13580876

Description: 2-Way F 150 GT Series, Sealed (GY)

Connector Part Information

Harness Type: CNG Injector

OEM Connector: EV6

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 150 GT Series, Sealed (BK)</

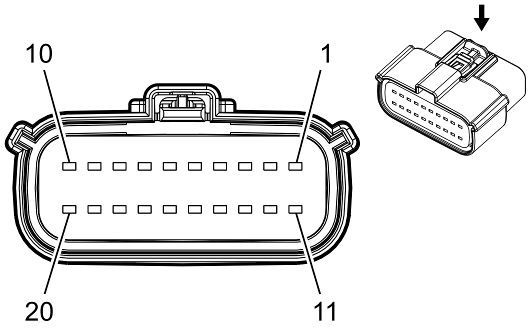
Terminal Part Information

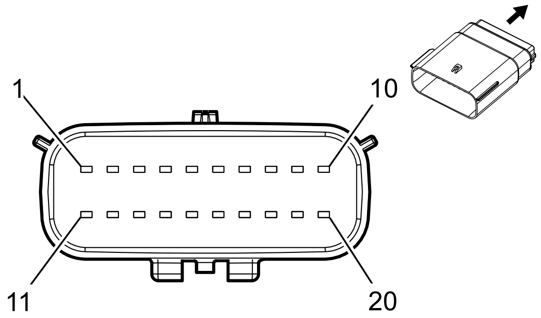
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-2A (GY)	Not Available	Not Available	Not Available	Not Available	Not Available
II	Not Available	J-35616-3 (GY)	J-38125-11A	7114-4103-08	9	NE	1

X188 Engine Harness to CNG Injector Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	1.5	VT/D-BU	5292	I	-	Powertrain Main Relay Fused Supply (3)	A	1	PK/WH	-	II	-
B	0.5	BN/GY	878	I	-	Fuel Injector Control (8)	B	1	BU/WH	-	II	-

X189 CNG Injector Harness to CNG Engine Harness (LC8)





Connector Part Information

Harness Type: CNG Injector

OEM Connector: 33472-2006

Service Connector: 19300557

Description: 20-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: CNG Engine

OEM Connector: 13520296

Service Connector: 19300560

Description: 20-Way M 1.5 Series, Sealed (BK)

Terminal Part Information

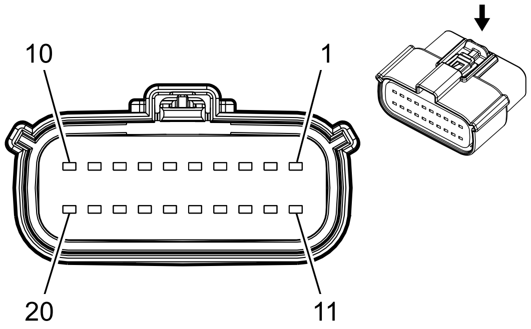
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

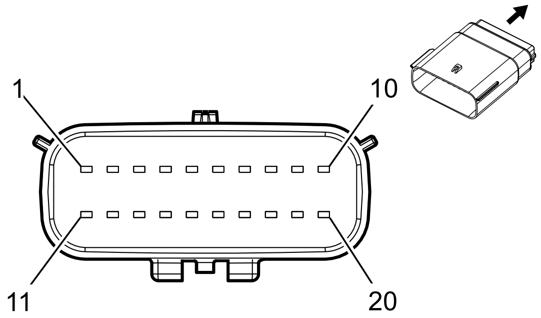
X189 CNG Injector Harness to CNG Engine Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1	TN	-	I	-	OEM Injector 1 Output	1	0.5	TN	-	I	-
2	1	PK/BK	-	I	-	OEM Injector 2 Output	2	0.5	PK/BK	-	I	-
3	1	TN/WH	-	I	-	OEM Injector 3 Output	3	0.5	TN/WH	-	I	-
4	1	OG/BK	-	I	-	EVAP Canister Purge Solenoid Control	4	0.5	OG/BK	-	I	-
5	1	L-GN/BK	-	I	-	OEM Injector 5 Output	5	0.5	L-GN/BK	-	I	-
6	1	L-BU/BK	-	I	-	OEM Injector 6 Output	6	0.5	L-BU/BK	-	I	-

6	1	L-BU/BK	-	I	-	OEM Injector 6 Output	6	0.5	L-BU/BK	-	I	-
7	1	YE/BK	-	I	-	OEM Injector 7 Output	7	0.5	YE/BK	-	I	-
8	1	BU/WH	-	I	-	OEM Injector 8 Output	8	0.5	BU/WH	-	I	-
9	1	PK/WH	-	I	-	OEM Injector Positive Voltage Bank 2	9	0.5	PK/WH	-	I	-
10	1	PK	-	I	-	OEM Injector Positive Voltage Bank 1	10	0.5	PK	-	I	-
11	1	WH/BK	-	I	-	Alternative Fuel Injector 1 Control	11	0.8	WH/BK	-	I	-
12	1	WH/RD	-	I	-	Alternative Fuel Injector 3 Control	12	0.8	WH/RD	-	I	-
13	1	WH/YE	-	I	-	Alternative Fuel Injector 5 Control	13	0.8	WH/YE	-	I	-
14	1	WH/BU	-	I	-	Alternative Fuel Injector 7 Control	14	0.8	WH/BU	-	I	-
15	2	GN	-	I	-	Switched Battery Positive	15	2	GN	-	I	-
16	0.5	RD/WH	-	I	-	5–Volt Output	16	0.5	RD/WH	-	I	-
17	0.5	BU/GN	-	I	-	Fuel Pressure Input	17	0.5	BU/GN	-	I	-
18	0.5	BU/BK	-	I	-	Fuel Temp Sensor Input	18	0.5	BU/BK	-	I	-
19	0.5	BK	-	I	-	Ground	19	1	BK	-	I	-
20	-	-	-	-	-	Not Occupied	20	-	-	-	-	-

X190 CNG Engine Harness to CNG Injector Harness (LC8)





Connector Part Information

Harness Type: CNG Engine

OEM Connector: 33472-2006

Service Connector: 19300557

Description: 20-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: CNG Injector

OEM Connector: 33482-2001

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way M 1.5 Series, Sealed (BK)

Terminal Part Information

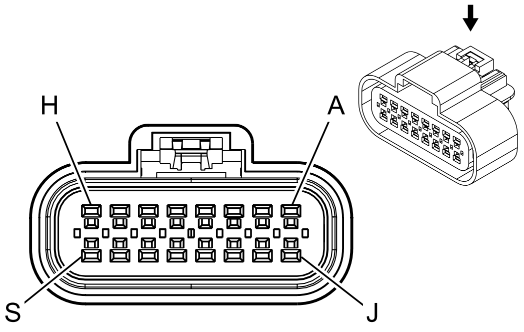
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

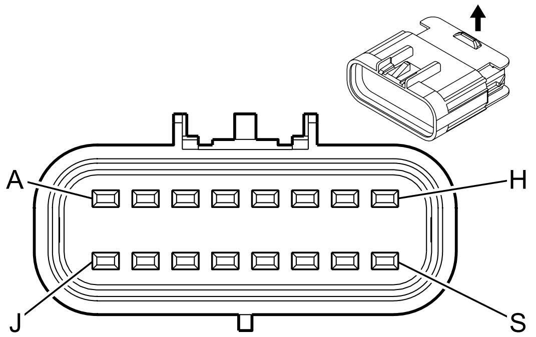
X190 CNG Engine Harness to CNG Injector Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	TN/GN	-	I	-	OEM Injector 1 Input	1	0.5	TN/GN	-	I	-
2	0.5	PK/GN	-	I	-	OEM Injector 2 Input	2	0.5	PK/GN	-	I	-
3	0.5	TN/BU	-	I	-	OEM Injector 3 Input	3	0.5	TN/BU	-	I	-
4	0.5	OG/GN	-	I	-	OEM Injector 4 Input	4	0.5	OG/GN	-	I	-
5	0.5	L-GN	-	I	-	OEM Injector Input 5	5	0.5	L-GN	-	I	-
6	0.5	L-BU	-	I	-	OEM Injector Input 6	6	0.5	L-BU	-	I	-

7	0.5	YE	-	I	-	OEM Injector Input 7	7	0.5	YE	-	I	-
8	0.5	BU	-	I	-	OEM Injector Input 8	8	0.5	BU	-	I	-
9–10	—	—	—	—	—	Not Occupied	9–10	—	—	—	—	—
11	0.8	WH/BN	-	I	-	Alternative Fuel Injector 2 Control	11	0.8	WH/BN	-	I	-
12	0.8	WH/OG	-	I	-	Alternative Fuel Injector 4 Control	12	0.8	WH/OG	-	I	-
13	0.8	WH/GN	-	I	-	Alternative Fuel Injector 6 Control	13	0.8	WH/GN	-	I	-
14	0.8	WH/PU	-	I	-	Alternative Fuel Injector 8 Control	14	0.8	WH/PU	-	I	-
15	2	GN	-	I	-	Switched Battery Positive	15	2	GN	-	I	-
16–20	—	—	—	—	—	Not Occupied	16–20	—	—	—	—	—

X191 Engine Harness to Power Take-Off Jumper Harness (PTO)





Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 15326863

Service Connector: 19180282

Description: 16-Way F 150 GT Series, Sealed (BK)

Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 15326868

Service Connector: 15306364

Description: 16-Way M 150 Series, Sealed (BK)

Terminal Part Information

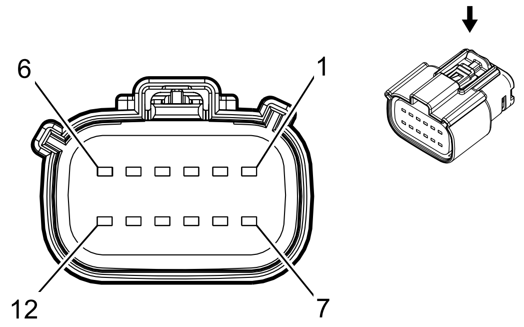
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575412	J-35616-14 (GN)	J-38125-553	12191819	9	E	1
II	13575412	J-35616-14 (GN)	J-38125-553	Not Available	Not Available	Not Available	Not Available
III	13575397	J-35616-3 (GY)	J-38125-553	15326269	21	E	4

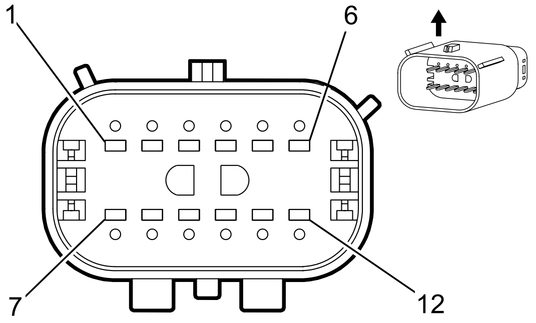
X191 Engine Harness to Power Take-Off Jumper Harness (PTO)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.75	BN/WH	6085	II	—	Power Take Off Remote Engine Start Switch Signal	A	0.5	BN/WH	6085	III	—
B	0.75	BN	6381	II	—	Power Take Off Relay	B	—	—	—	—	—

B	0.75					Engage Signal	B	—				
C	—	—	—	—	—	Not Occupied	C	—	—	—	—	—
D	0.75	BK	550	II	—	Ground	D	—	—	—	—	—
E - F	—	—	—	—	—	Not Occupied	E - F	—	—	—	—	—
G	0.75	YE	2522	II	—	Power Take Off Status Signal	G	—	—	—	—	—
H	0.5	VT/D-BU	2562	I	—	Power Take Off Relay Coil Control	H	—	—	—	—	—
J	0.5	WH/L-GN	6142	I	—	Power Take Off Engine Shutdown Signal	J	0.5	BN/WH	6085	III	—
K	0.75	RD/VT	2640	II	—	Battery Positive Voltage	K	—	—	—	—	—
L - M	—	—	—	—	—	Not Occupied	L - M	—	—	—	—	—
N	0.5	D-BU/GY	6089	I	—	Power Take Off Remote Switch Set Signal (1)	N	—	—	—	—	—
P	—	—	—	—	—	Not Occupied	P	—	—	—	—	—
R	0.5	VT/WH	239	I	—	Run/Crank Ignition 1 Voltage	R	—	—	—	—	—
S	—	—	—	—	—	Not Occupied	S	—	—	—	—	—

X199 CNG Engine Harness to CNG Instrument Panel Harness (LC8)





Connector Part Information

Harness Type: CNG Engine

OEM Connector: 33472-1207

Service Connector: 19300601

Description: 12-Way F 150 MX Series, Sealed (L-GY)

Connector Part Information

Harness Type: CNG Instrument Panel

OEM Connector: 33482-1202

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way M MAT Series, Sealed (L-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

X199 CNG Engine Harness to CNG Instrument Panel Harness (LC8)

1	0.5	RD	-	I	-	Battery Positive Voltage	1	0.5	RD	-	I	-
2	-	-	-	-	-	Not Occupied	2	-	-	-	-	-
3	-	-	-	-	-	Not Occupied	3	-	-	-	-	-
4	0.5	WH	-	I	-	Alternative Fuel Enable Relay	4	0.5	WH	-	I	-
5	-	-	-	-	-	Not Occupied	5	-	-	-	-	-
6	-	-	-	-	-	Not Occupied	6	-	-	-	-	-

7	0.5	BK	-	I	-	Ground	7	0.5	BK	-	I	-
8	-	-	-	-	-	Not Occupied	8	-	-	-	-	-
9	-	-	-	-	-	Not Occupied	9	-	-	-	-	-
10	-	-	-	-	-	Not Occupied	10	-	-	-	-	-
11	-	-	-	-	-	Not Occupied	11	-	-	-	-	-
12	-	-	-	-	-	Not Occupied	12	-	-	-	-	-

X201 Steering Column Harness to Instrument Panel Harness (except E29)

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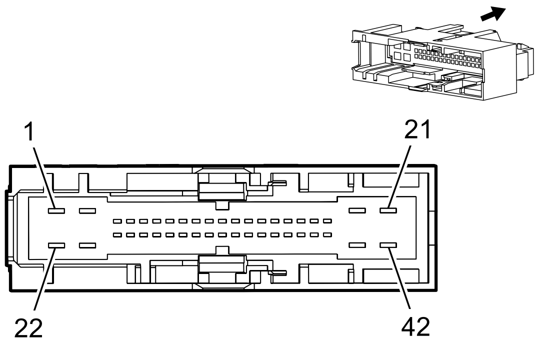

Connector Part Information

Harness Type: Steering Column

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 42-Way F

Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13898445

Service Connector: 13586232

Description: 42-Way M 0.64, 2.8 Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	13575823	J-35616-5 (PU)	J-38125-11A	7114-4110-02	9	E	C
III	19301762	J-35616-65B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available
IV	19301763	J-35616-65B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available

X201 Steering Column Harness to Instrument Panel Harness (except E29)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
4	0.5	RD/D-BU	540	I	—	Battery Positive Voltage	4	0.5	RD/D-BU	540	IV	—
9	0.35	L-GN/BN	2087	I	—	Combined Vehicle Inertial Sensor Supply Voltage	9	0.35	L-GN/BN	2087	III	—
10	0.5	D-BU/YE	6105	I	—	High Speed GMLAN Serial Data (+) (2)	10	0.5	D-BU/YE	6105	IV	—

11	0.5	D-BU/YE	6105	I	—	High Speed GMLAN Serial Data (+) (2)	11	0.5	D-BU/YE	6105	IV	—
16	0.35	L-GN/WH	111	I	—	Hazard Switch Signal	16	0.35	L-GN/WH	111	III	—
17	0.5	YE/WH	816	I	—	Brake Transmission Shift Interlock Solenoid Control	17	0.5	YE/WH	816	IV	—
20	0.5	BK	1050	I	—	Ground	20	0.5	BK	1050	II	—
25	0.35	RD/YE	3040	I	—	Battery Positive Voltage	25	0.35	RD/YE	3040	III	—
30	0.5	L-GN/WH	7527	I	—	Local Interconnect Network Serial Data Bus 5	30	0.5	L-GN/WH	7527	IV	—
31	0.5	WH	6106	I	—	High Speed GMLAN Serial Data (-) (2)	31	0.5	WH	6106	IV	—
32	0.5	WH	6106	I	—	High Speed GMLAN Serial Data (-) (2)	32	0.5	WH	6106	IV	—
33	0.5	L-GN/BK	3894	I	—	Local Interconnect Network Serial data Bus 12	33	0.5	L-GN/BK	3894	IV	—
38	0.35	BN	6136	I	—	Control	38	0.35	BN	6136	III	—
41	0.5	VT/WH	1139	I	—	Run/Crank Ignition 1 Voltage	41	0.5	VT/WH	1139	II	—

42	0.5	BK/WH	1851	I	—	Signal Ground	42	0.5	BK/WH	1851	II	—

X201 Steering Column Harness to Instrument Panel Harness (E29)

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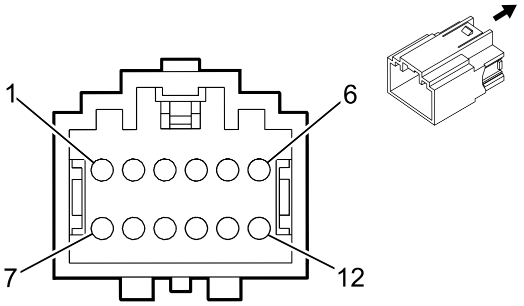


Connector Part Information

Harness Type: Steering Column

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F

Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13507705

Service Connector: 88988266

Description: 12-Way M 1.5 Series (L-GY)

Terminal Part Information

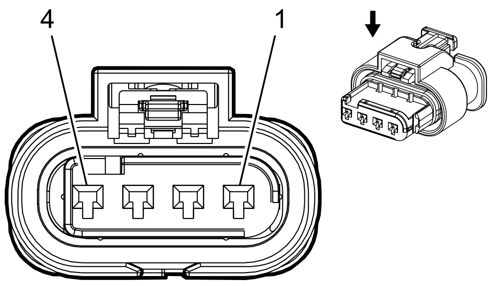
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	13575818	J-35616-3 (GY)	J-38125-553	Not Available	Not Available	Not Available	Not Available

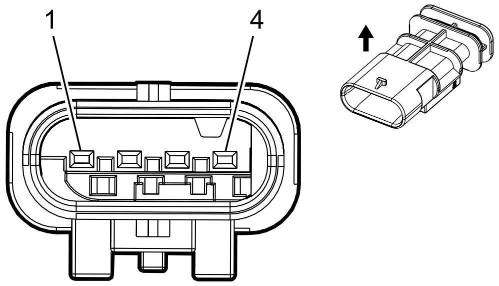
X201 Steering Column Harness to Instrument Panel Harness (E29)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	BN	6136	I	—	Control	1	0.35	BN	6136	II	—
2	0.35	RD/YE	3040	I	—	Battery Positive Voltage	2	0.35	RD/YE	3040	II	—
3	0.5	D-BU/YE	6105	I	—	High Speed GMLAN Serial Data (+) (2)	3	0.5	D-BU/YE	6105	II	—
4	0.5	D-BU/YE	6105	I	—	High Speed GMLAN Serial Data (+) (2)	4	0.5	D-BU/YE	6105	II	—

5	0.35	L-GN/BN	2087	I	—	Combined Vehicle Inertial Sensor Supply Voltage	5	0.35	L-GN/BN	2087	II	—
6	0.5	BK/WH	1851	I	—	Signal Ground	6	0.5	BK/WH	1851	II	—
7	0.5	RD/D-BU	540	I	—	Battery Positive Voltage	7	0.5	RD/D-BU	540	II	—
8	0.35	L-GN/WH	111	I	—	Hazard Switch Signal	8	0.35	L-GN/WH	111	II	—
9	0.5	WH	6106	I	—	High Speed GMLAN Serial Data (-) (2)	9	0.5	WH	6106	II	—
10	0.5	WH	6106	I	—	High Speed GMLAN Serial Data (-) (2)	10	0.5	WH	6106	II	—
12	0.5	BK	1050	I	—	Ground	12	0.5	BK	1050	II	—

X205 Instrument Panel Harness to Passenger Air Bag Jumper Harness





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13854531

Service Connector: 13586137

Description: 4-Way F 1.2 Series, Sealed (YE)

Connector Part Information

Harness Type: Passenger Air Bag Jumper

OEM Connector: 13854529

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 1.2 Series, Sealed (YE)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-13 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required

X205 Instrument Panel Harness to Passenger Air Bag Jumper Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	YE/OG	3025	I	—	Passenger IP Module Stage 1 High Control	1	0.35	YE/OG	3025	II	—
2	0.35	OG/WH	3024	I	—	Passenger IP Module Stage 1 Low Control	2	0.35	OG/WH	3024	II	—

3	0.35	GY/OG	3027	I	—	Passenger IP Module Stage 2 High Control	3	—	—	—	—	—
4	0.35	OG/VT	3026	I	—	Passenger IP Module Stage 2 Low Control	4	—	—	—	—	—

X215 Instrument Panel Harness to Instrument Panel Harness

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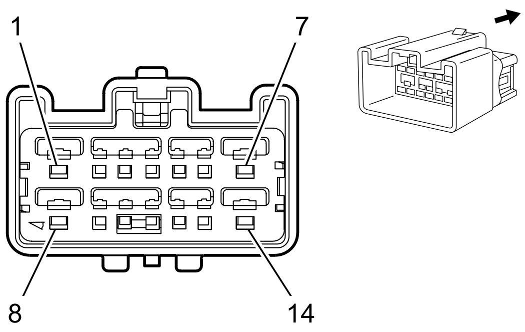


Connector Part Information

Harness Type: Instrument Panel

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 14-Way F

Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 10846900

Service Connector: 88956523

Description: 14-Way M Hybrid Series (L-GY)

Terminal Part Information

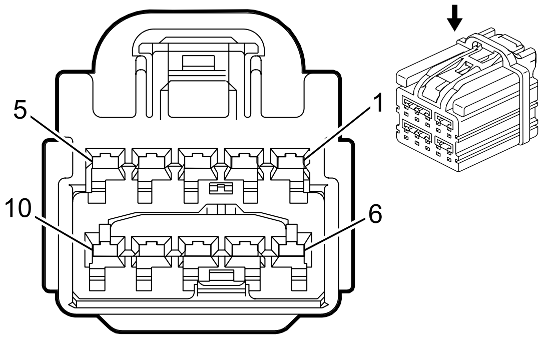
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	13575818	J-35616-3 (GY)	J-38125-553	Not Available	Not Available	Not Available	Not Available

X215 Instrument Panel Harness to Instrument Panel Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
2	0.35	L-GN	5060	I	—	Low Speed GMLAN Serial Data	2	0.35	L-GN	5060	II	—
3	0.35	L-GN/YE	7531	I	—	Local Interconnect Network Serial Data Bus 9	3	0.35	L-GN/YE	7531	II	—
4	0.5	RD/VT	3340	I	—	Battery Positive Voltage	4	0.5	RD/VT	3340	II	—
5	0.5	VT/GY	539	I	—	Run/Crank Ignition 1 Voltage	5	0.5	VT/GY	539	II	—

9	0.35 0.5	BK/WH BK/WH	1851 1851	I	— —	Signal Ground	9	0.35 0.5	BK/WH BK/WH	1851 1851	II	— —
10	0.35	BK/YE	1791	I	—	Air Temperature Door Control Low Reference	10	0.35	BK/YE	1791	II	—
11	0.35	D-BU/WH	734	I	—	Inside Air Temperature Sensor Signal	11	0.35	D-BU/WH	734	II	—
12	0.35	GY	590	I	—	Solar Sensor Driver Signal	12	0.35	GY	590	II	—
13	0.35	YE/VT	1783	I	—	Twilight Sentinel Delay Signal	13	0.35	YE/VT	1783	II	—

X216 Body Harness to HVAC Harness



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Connector Part Information

Harness Type: Body

OEM Connector: 10847018

Service Connector: 22708788

Description: 10-Way F Kaizen YESC Series (L-GY)

Connector Part Information

Harness Type: HVAC

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way M

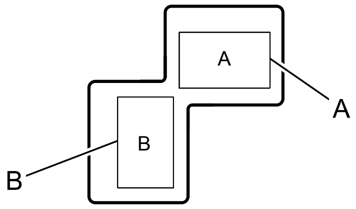
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19301767	J-35616-2A (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X216 Body Harness to HVAC Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 3	—	—	—	—	—	Not Occupied	1 - 3	—	—	—	—	—
4	0.35	BN/VT	193	I	—	Rear Defog Relay Control	4	0.35	BN/VT	193	II	—
5	0.5	D-BU/BN	7573	I	—	Electric Variable Displacement Supply	5	0.5	D-BU/BN	7573	II	—
6	0.5	D-BU/YE	7574	I	—	Electric Variable Displacement Control	6	0.5	D-BU/YE	7574	II	—
7 - 10	—	—	—	—	—	Not Occupied	7 - 10	—	—	—	—	—

X217 Body Harness to HVAC Harness



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Connector Part Information

Harness Type: Body

OEM Connector: 10721337

Service Connector: 88953301

Description: 2-Way F 56 Series (BK)

Connector Part Information

Harness Type: HVAC

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M

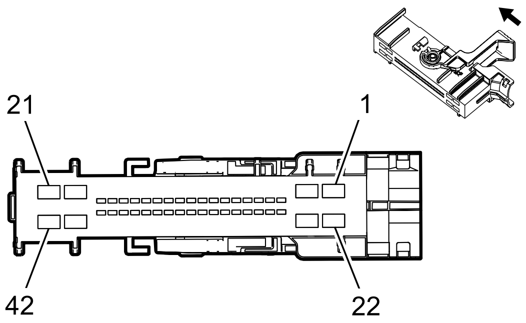
Terminal Part Information

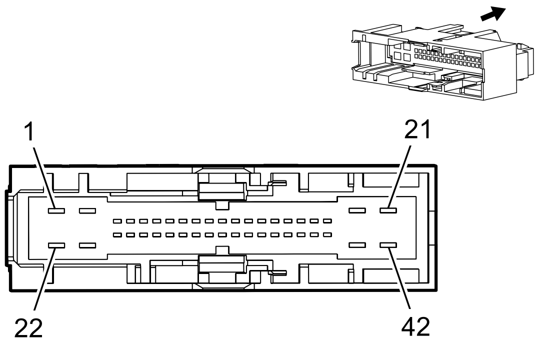
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-22 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X217 Body Harness to HVAC Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	4	RD/VT	542	I	—	Battery Positive Voltage	1	4	RD/VT	542	II	—
2	10	RD/GY	642	I	—	Battery Positive Voltage	2	10	RD/GY	642	II	—
A - B	—	—	—	—	—	Not Occupied	A - B	—	—	—	—	—

X225 Body Harness to Instrument Panel Harness





Connector Part Information

Harness Type: Body

OEM Connector: 33160247

Service Connector: 19301820

Description: 42-Way F 1.2, 2.8 Series (GY)

Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13898444

Service Connector: 13586233

Description: 42-Way M 0.64, 2.8 Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13580025	J-35616-35 (VT)	J-38125-11A	7116-4111-02	13	E	A
II	19300649	J-35616-64B (LT BU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
III	19300649	J-35616-64B (LT BU)	J-38125-553	Not Available	Not Available	Not Available	Not Available
IV	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
V	13575824	J-35616-5 (PU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
VI	19301762	J-35616-65B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available
VII	19301763	J-35616-65B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available
VIII	19329828	J-35616-5 (PU)	J-38125-212	1326029-1	10	E	C
IX	19329828	J-35616-5 (PU)	J-38125-212	Not Available	Not Available	Not Available	Not Available

X225 Body Harness to Instrument Panel Harness

Body Harness to Instrument Panel Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75 0.75	YE/GY BK	1956 2550	I	— —	Left Front Tweeter Speaker (-) Low Reference Ground	1	0.75 0.75	YE/GY BK	1956 2550	IX	— —
2	1.5	BK	1850	IV	—	Ground	2	0.75	BK	1850	IX	—
3	0.5	WH	6106	III	—	High Speed GMLAN Serial Data (-) (2)	3	0.5	WH	6106	VII	—
4	0.5 0.5	D-BU/YE WH/BN	6105 6815	III	— —	High Speed GMLAN Serial Data (+) (2) Inadvertent Power Control	4	0.5 0.5	D-BU/YE WH/BN	6105 6815	VII	— —
5	0.35	GY/WH	3272	III	—	Remote Function Actuator Control	5	0.35	GY/WH	3272	VI	—
6	0.35	D-BU/WH	3275	III	—	Remote Function Actuator Receive Signal	6	0.35	D-BU/WH	3275	VI	—
7	0.35 0.35	L-GN/BN BK/L-GN	507 552	III	— —	Wait To Start Indicator Control Sensor Low Reference	7	0.35 0.35	L-GN/BN BK/L-GN	507 552	VI	— —
8	0.5	GY/VT	3998	III	—	MOST Serial Data (+)	8	0.5	GY/VT	3998	VII	—

	0.5	L-GN	3998		—							
9	0.35 0.5	D-BU/YE RD/WH	6844 961	III	— —	ABS/TCS Hill Descent Control Switch Signal —	9	0.35	D-BU/YE	6844	VI	—
10	0.35	VT	185	III	—	Low Washer Fluid Indicator Control	10	0.35	VT	185	VI	—
11	0.5	WH/L-GN	3997	III	—	MOST Serial Data (-)	11	0.5	WH/L-GN	3997	VII	—
12	0.5	BN/D-BU	118	III	—	Left Front Speaker Signal (-) (1)	12	0.5	BN/D-BU	118	VII	—
13	1	D-BU/VT	1134	II	—	Park Brake Switch Signal	13	0.5	D-BU/VT	1134	VII	—
14	0.5	L-GN	199	III	—	Left Rear Speaker Control (+)	14	0.5	L-GN	199	VII	—
15	0.5	D-BU	2500	III	—	High Speed GMLAN Serial Data (+) (1)	15	0.5	D-BU	2500	VII	—
16	0.5	WH	2501	III	—	High Speed GMLAN Serial Data (-) (1)	16	0.5	WH	2501	VII	—
17	0.35	D-BU/GY	636	III	—	Outside Ambient Air Temperature Sensor Signal	17	0.35	D-BU/GY	636	VI	—

18	0.35	WH/L-GN	526	III	—	Stop Lamp Switch Signal	18	0.35	WH/L-GN	526	VI	—
19	0.35	BK/D-BU	61	III	—	Outside Ambient Temperature Sensor Low Reference	19	0.35	BK/D-BU	61	VI	—
20	0.5 0.75	BN/D-BU BN/D-BU	118 118	IV	— —	Left Front Speaker Signal (-) (1)	20	0.75	BN/D-BU	118	IX	—
21	0.35	BN/WH	781	IV	—	Driver Door Lock Switch Unlock Signal	21	0.35	BN/WH	781	VIII	—
22	0.35 0.75	BN/YE YE/D-BU	780 1856	IV I	— —	Driver Door Lock Switch Lock Signal Left Front Tweeter Speaker Control (+)	22	0.35 0.75	BN/YE YE/D-BU	780 1856	VIII IX	— —
23	0.35 0.5	L-GN WH/D-BU	4512 3691	IV	— —	Wireless Charging System Charge Indicator Control Trailer Brake Apply Signal	23	0.35 0.5	L-GN WH/D-BU	4512 3691	IX	— —
24	0.35	L-GN/WH	3438	III	—	Exhaust Brake Switch Signal	24	0.35	L-GN/WH	3438	VI	—
25	0.35	BN/WH	419	III	—	Check Engine Indicator Control	25	0.35	BN/WH	419	VI	—
26	0.35	YE/L-GN	3274	III	—	Remote Function Actuator Transmit	26	0.35	YE/L-GN	3274	VI	—

26	0.35					Actuator Transmit Signal	26	0.35			
27	0.35	GY	3273	III	—	Remote Function Actuator Low Reference	27	0.35	GY	3273	VI	—
28	0.5	BK	1850	III	—	Ground	28	0.5	BK	1850	VII	—
29	0.5 0.5	YE WH/L-GN	3997 3997	III	— —	MOST Serial Data (-)	29	0.5	WH/L-GN	3997	VII	—
30	0.35 0.5	L-GN/WH L-GN/GY	488 963	III	— —	Power Take Off Control Switch —	30	0.35	L-GN/WH	488	VI	—
31	0.35 0.5	BN/L-GN WH/D-BU	4311 964	III	— —	Power Take Off Enable In Cab Switch Normally Closed Signal —	31	0.35	BN/L-GN	4311	VI	—
32	0.5	GY/VT	3998	III	—	MOST Serial Data (+)	32	0.5	GY/VT	3998	VII	—
33	0.5	D-BU	201	III	—	Left Front Speaker Control (+) (1)	33	0.5	D-BU	201	VII	—
34	0.5	D-BU/YE	68	III	—	Low Coolant Level Indicator Control	34	0.5	D-BU/YE	68	VII	—

35	0.5	L-GN/BK	116	III	—	Left Rear Speaker Signal (-)	35	0.5	L-GN/BK	116	VII	—
36	0.5 0.5	L-GN/YE D-BU/YE	2081 6105	III	— —	Exhaust Brake Switch Control High Speed GMLAN Serial Data (+) (2)	36	0.5 0.5	L-GN/YE D-BU/YE	2081 6105	VII	— —
37	0.35 0.5	VT/YE WH	43 6106	III	— —	Accessory Ignition Voltage High Speed GMLAN Serial Data (-) (2)	37	0.35 0.5	VT/YE WH	43 6106	VI VII	— —
38	0.35	L-GN/BN	2087	III	—	Combined Vehicle Inertial Sensor Supply Voltage	38	0.35	L-GN/BN	2087	VI	—
39	0.5	YE/WH	962	III	—	—	39	—	—	—	—	—
40	0.35 0.5	GY/RD L-GN/GY	598 6135	III	— —	5 Volt Reference Local Interconnect Network Serial Data Bus 4	40	0.35 0.5	GY/RD L-GN/GY	598 6135	VI VII	— —
41	0.5 0.75	D-BU D-BU	201 201	IV	— —	Left Front Speaker Control (+) (1)	41	0.75	D-BU	201	IX	—
		D-BU/YE	6844	IV	—	ABS/TCS Hill Descent			D-BU/YE	6844	IX	—

42	0.35 2.5	BK	1050		—	Control Switch Signal Ground	42	0.35 2.5	BK	1050	V	—

X241 Engine Harness to Power Inverter Module Jumper Harness

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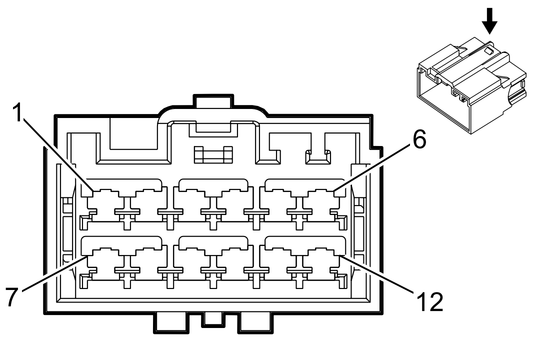


Connector Part Information

Harness Type: Engine

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F

Connector Part Information

Harness Type: Power Inverter Module Jumper

OEM Connector: 10846810

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way M (L-GY)

Terminal Part Information

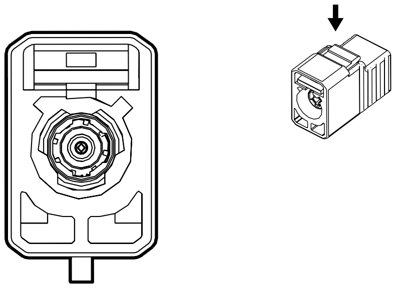
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

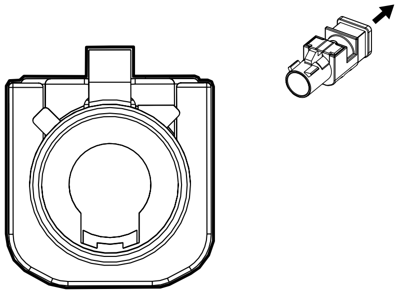
X241 Engine Harness to Power Inverter Module Jumper Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
2	1.5	BK	5683	I	—	120 V AC Phase A	2	1.5	BK	5683	II	—
6	2.5	RD/GY	4140	I	—	Battery Positive Voltage	6	2.5	RD/GY	4140	II	—
7	1.5	RD	5684	I	—	120 V AC Phase B	7	1.5	RD	5684	II	—
10	0.35	BARE	514	I	—	Low Reference	10	0.35	BARE	514	II	—

11	2.5	BK	1050	I	—	Ground	11	2.5	BK	1050	II	—
12	0.35	D-BU/BN	6807	I	—	DC To AC Inverter Control	12	0.35	D-BU/BN	6807	II	—

X245 Antenna Jumper Harness COAX to Antenna Jumper Harness COAX





Connector Part Information

Harness Type: Antenna Jumper

OEM Connector: 13581687

Service Connector: Service by Harness - See Part Catalog

Description: 1 F Coax Type (BK)

Connector Part Information

Harness Type: Antenna

OEM Connector: Not Available

Service Connector: Service by Component - See Part Catalog

Description: 1–Way M Coax Type (BK)

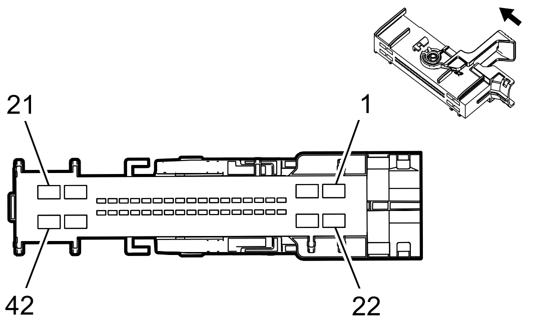
Terminal Part Information

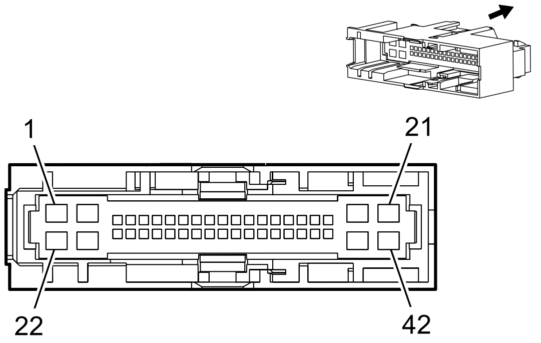
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

X245 Antenna Jumper Harness COAX to Antenna Jumper Harness COAX

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1			COAX	I	-	AM/FM Antenna Signal	1			COAX	I	-

X275 Instrument Panel Harness to Body Harness





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 33119942

Service Connector: 19330903

Description: 42-Way F 1.2, 2.8 Series (YE)

Connector Part Information

Harness Type: Body

OEM Connector: 33155177

Service Connector: 19332890

Description: 42-Way M 0.64, 2.8 Series (YE)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13580025	J-35616-35 (VT)	J-38125-11A	7116-4111-02	13	E	A
II	13582232	J-35616-64B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
III	19300649	J-35616-64B (LT BU)	J-38125-553	Not Available	Not Available	Not Available	Not Available
IV	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
V	13575823	J-35616-5 (PU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
VI	13575824	J-35616-5 (PU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
VII	19301762	J-35616-65B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available
VIII	19301763	J-35616-65B (LT BU)	J-38125-22	Not Available	Not Available	Not Available	Not Available
IX	19329828	J-35616-5 (PU)	J-38125-212	Not Available	Not Available	Not Available	Not Available
X	19329836	J-35616-65B (LT BU)	J-38125-12A	Not Available	Not Available	Not Available	Not Available

X275 Instrument Panel Harness to Body Harness

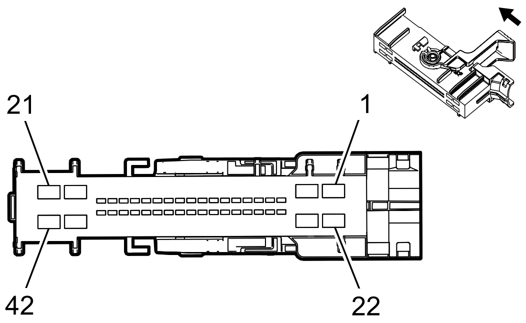
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75 0.75	VT/BN VT/BN	1952 1952	I IV	— —	Right Front Tweeter Speaker (-) Low Reference	1	0.75	VT/BN	1952	IX	—
2	1.5	VT/YE	143	IV	—	Accessory Ignition Voltage	2	1.5	VT/YE	143	VI	—
3	0.35	D-BU	2060	III	—	Auxiliary Detection Signal	3	0.5	D-BU	2060	VIII	—
4	0.5	BARE	5842	III	—	Auxiliary Audio Screen (2)	4	0.5	BARE	5842	VIII	—
5	0.35	VT	5843	III	—	Auxiliary Audio Common Signal	5	0.5	VT	5843	VIII	—
6	0.35	GY	5839	III	—	Left Auxiliary Audio Signal (2)	6	0.5	GY	5839	VIII	—
7	0.35	L-GN	5841	III	—	Right Auxiliary Audio Signal (2)	7	0.5	L-GN	5841	VIII	—
8	0.35	GY/YE	6972	III	—	Camera Signal 2 +	8	0.35	GY/YE	6972	VII	—
9	0.35	WH/D-BU	6973	III	—	Camera Signal 2	9	0.35	WH/D-BU	6973	VII	—
10	—	—	—	—	—	Not Occupied	10	—	—	—	—	—

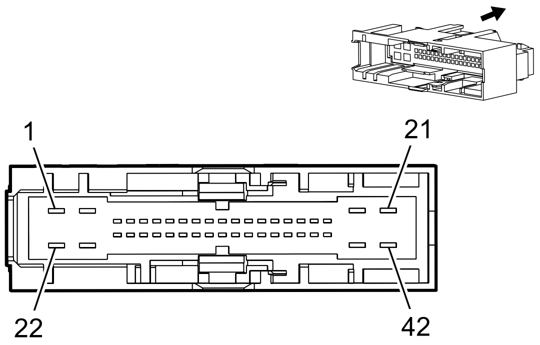
10	—	—	—	—	—	Not Occupied	10	—	—	—	—	—
11	0.35	WH/VT	3999	III	—	MOST Control	11	0.35	WH/VT	3999	VII	—
12	0.5	YE/BK	117	III	—	Right Front Speaker Signal (-) (1)	12	0.5	YE/BK	117	VIII	—
13	0.5	BN/WH	1429	III	—	Standing Lamp Relay Control	13	0.5	BN/WH	1429	VIII	—
14	0.5	WH	46	III	—	Right Rear Speaker Control (+)	14	0.5	WH	46	VIII	—
15	0.35	YE/OG	3025	II	—	Passenger IP Module Stage 1 High Control	15	0.35	YE/OG	3025	X	—
16	0.35	OG/WH	3024	II	—	Passenger IP Module Stage 1 Low Control	16	0.35	OG/WH	3024	X	—
17	0.35	GY/OG	3027	II	—	Passenger IP Module Stage 2 High Control	17	0.35	GY/OG	3027	X	—
18	0.35	OG/VT	3026	II	—	Passenger IP Module Stage 2 Low Control	18	0.35	OG/VT	3026	X	—
19	—	—	—	—	—	Not Occupied	19	—	—	—	—	—
20	0.75	YE/BK	117	IV	—	Right Front Speaker Signal (-) (1)	20	0.5 0.75	YE/BK YE/BK	117 117	V	— —
21	1.5	VT/YE	243	IV	—	Accessory Ignition Voltage	21	1.5	VT/YE	243	VI	—

22	0.75	BN/L-GN	1852	IV	—	Right Front Tweeter Speaker Control (+)	22	0.75	BN/L-GN	1852	IX	—
23	0.35 0.5	WH/D-BU WH/D-BU	5986 5986	IV	— —	Serial Data Communication Enable	23	0.5	WH/D-BU	5986	IX	—
24	—	—	—	—	—	Not Occupied	24	—	—	—	—	—
25	0.5	L-GN	5060	III	—	Low Speed GMLAN Serial Data	25	0.5	L-GN	5060	VIII	—
26 - 28	—	—	—	—	—	Not Occupied	26 - 28	—	—	—	—	—
29	0.35	BARE	6974	III	—	Camera Low Reference	29	0.35	BARE	6974	VII	—
30	0.35	YE	6812	III	—	Out of Park Signal	30	0.35	YE	6812	VII	—
31 - 32	—	—	—	—	—	Not Occupied	31 - 32	—	—	—	—	—
33	0.5	YE	200	III	—	Right Front Speaker Control (+) (1)	33	0.5	YE	200	VIII	—
34	—	—	—	—	—	Not Occupied	34	—	—	—	—	—
35	0.5	D-BU/BK	115	III	—	Right Rear Speaker Signal (-)	35	0.5	D-BU/BK	115	VIII	—
36	0.35	D-BU/OG	7328	III	—	Passenger IP Module Disable Switch Low Reference	36	0.35	D-BU/OG	7328	VII	—
		VT/OG	371	III	—	Passenger IP Module			VT/OG	371	VII	—

37	0.35					Disable Switch Signal	37	0.35			
38 - 40	—	—	—	—	—	Not Occupied	38 - 40	—	—	—	—	—
41	0.75	YE	200	IV	—	Right Front Speaker Control (+) (1)	41	0.5 0.75	YE YE	200 200	V	— —
42	—	—	—	—	—	Not Occupied	42	—	—	—	—	—

X300 Instrument Panel Harness to Floor Console Harness





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 33119943

Service Connector: 19301820

Description: 42-Way F 1.2, 2.8 Series (GY)

Connector Part Information

Harness Type: Floor Console

OEM Connector: 13898445

Service Connector: Service by Harness - See Part Catalog

Description: 42-Way M 0.64, 2.8 Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19300649	J-35616-64B (LT BU)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
II	19300649	J-35616-64B (LT BU)	J-38125-553	Not Available	Not Available	Not Available	Not Available
III	19301761	J-35616-35 (VT)	J-38125-12A	Not Available	Not Available	Not Available	Not Available
IV	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
V	Not Required	J-35616-65B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

X300 Instrument Panel Harness to Floor Console Harness

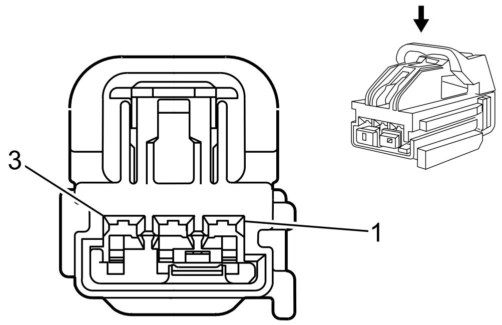
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	1.5	VT/YE	243	III	—	Accessory Ignition Voltage	1	1.5	VT/YE	243	IV	—

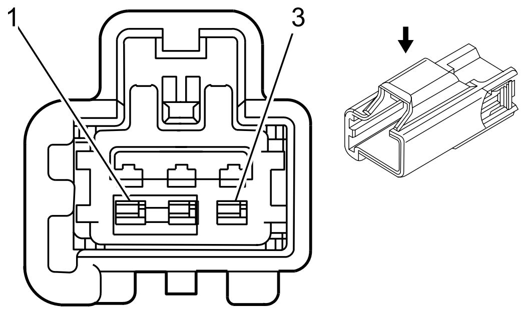
2	—	—	—	—	—	Accessory Ignition Voltage	2	1.5	VT/YE	143	IV	—
3	—	—	—	—	—	Not Occupied	3	—	—	—	—	—
4	0.35	D-BU	2060	II	—	Auxiliary Detection Signal	4	0.35	D-BU	2060	V	—
5	0.35	BK	2550	II	—	Ground	5	0.35	BK	2550	V	—
6	—	—	—	—	—	Not Occupied	6	—	—	—	—	—
7	0.35	VT/YE	43	II	—	Accessory Ignition Voltage	7	0.35	VT/YE	43	V	—
8 - 12	—	—	—	—	—	Not Occupied	8 - 12	—	—	—	—	—
13	0.5	BARE	5842	II	—	Auxiliary Audio Screen (2)	13	0.5	BARE	5842	V	—
14	0.35	VT	5843	II	—	Auxiliary Audio Common Signal	14	0.35	VT	5843	V	—
15	0.5	BARE	2057	II	—	Auxiliary Video Low Signal	15	0.5	BARE	2057	V	—
16	0.35	L-GN/WH	3355	II	—	Left Rear Seat Audio Headphone Signal	16	0.35	L-GN/WH	3355	V	—
17	0.5	BARE	3354	II	—	Rear Seat Audio Headphone Low Reference	17	0.5	BARE	3354	V	—
18	0.35	YE	2059	II	—	Left Auxiliary Audio Signal (1)	18	0.35	YE	2059	V	—

19	0.5	BARE	5345	II	—	Auxiliary Audio Low Reference (1)	19	0.5	BARE	5345	V	—
20 - 22	—	—	—	—	—	Not Occupied	20 - 22	—	—	—	—	—
23	2.5	BK	1050	III	—	Ground	23	2.5	BK	1050	IV	—
24	0.75	RD/VT	340	I	—	Battery Positive Voltage	24	0.75	RD/VT	340	V	—
25 - 27	—	—	—	—	—	Not Occupied	25 - 27	—	—	—	—	—
28	0.5	WH/BN	6815	II	—	Inadvertent Power Control	28	0.5	WH/BN	6815	V	—
29	0.35	L-GN	4512	II	—	Wireless Charging System Charge Indicator Control	29	0.35	L-GN	4512	V	—
30 - 33	—	—	—	—	—	Not Occupied	30 - 33	—	—	—	—	—
34	0.35	L-GN	5841	II	—	Right Auxiliary Audio Signal (2)	34	0.35	L-GN	5841	V	—
35	0.35	GY	5839	II	—	Left Auxiliary Audio Signal (2)	35	0.35	GY	5839	V	—
36	0.35	YE	2056	II	—	Auxiliary Video High Signal	36	0.35	YE	2056	V	—
37	0.35	BN/GY	3357	II	—	Right Rear Seat Audio Headphone Signal	37	0.35	BN/GY	3357	V	—
38	0.35	D-BU/VT	3356	II	—	Rear Seat Audio Headphone Common Signal	38	0.35	D-BU/VT	3356	V	—

						Signal						
39	0.35	WH	2058	II	—	Right Auxiliary Audio Signal (1)	39	0.35	WH	2058	V	—
40	0.35	BN	3374	II	—	Auxiliary Audio Common Signal (2)	40	0.35	BN	3374	V	—
41	—	—	—	—	—	Not Occupied	41	—	—	—	—	—
42	0.75	RD/VT	340	III	—	Battery Positive Voltage	42	0.75	RD/VT	340	IV	—

X302 Power Mat Jumper Harness to Floor Console Harness





Connector Part Information

Harness Type: Power Mat Jumper

OEM Connector: 10847008

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way F 1.5 Kaizen Series (L-GY)

Connector Part Information

Harness Type: Floor Console

OEM Connector: 10846803

Service Connector: Service by Harness - See Part Catalog

Description: 3-Way M 1.5 Kaizen YESC Series (L-GY)

Terminal Part Information

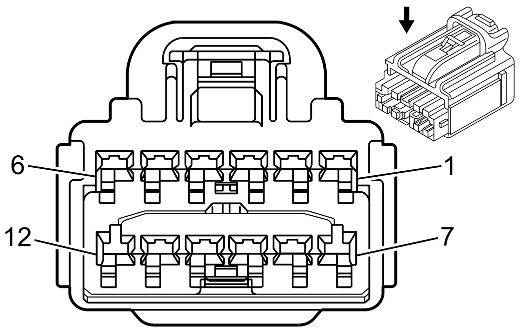
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
III	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
IV	Not Required	J-35616-41 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required

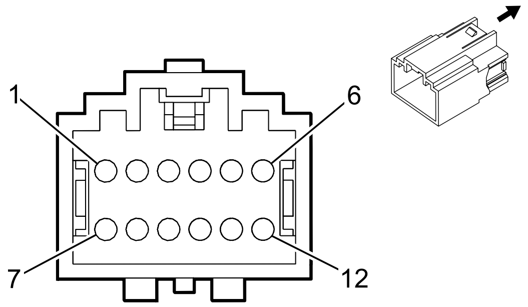
X302 Power Mat Jumper Harness to Floor Console Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	VT/YE	43	I	—	Accessory Ignition Voltage	1	0.35	VT/YE	43	IV	—

2	0.75	BK	1050	II	—	Ground	2	0.75	BK	1050	III	—
3	0.35	L-GN	4512	I	—	Wireless Charging System Charge Indicator Control	3	0.35	L-GN	4512	IV	—

X305 Instrument Panel Harness to Headliner Harness





Connector Part Information

Harness Type: Instrument Panel

OEM Connector: 13507762

Service Connector: 89046712

Description: 12-Way F YESC Kaizen Series (L-GY)

Connector Part Information

Harness Type: Headliner

OEM Connector: 13507705

Service Connector: 88988266

Description: 12-Way M 1.5 Series (L-GY)

Terminal Part Information

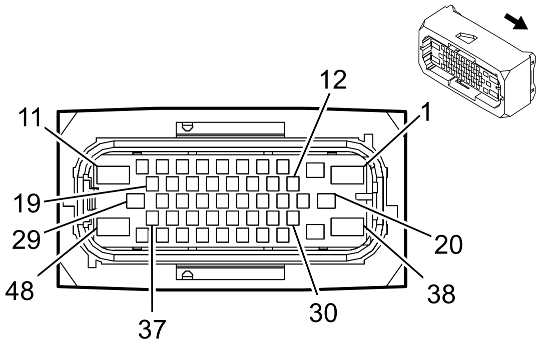
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	19301756	J-35616-2A (GY)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
II	13575818	J-35616-3 (GY)	J-38125-553	Not Available	Not Available	Not Available	Not Available

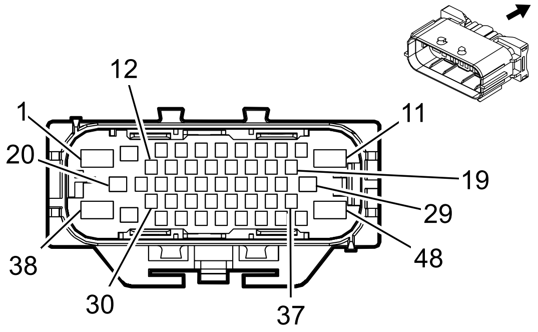
X305 Instrument Panel Harness to Headliner Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35 0.5	BK BK	2550 1050	I	— —	Ground	1	0.75 0.5	BK BK/WH	1050 2550	II	— —

2	0.75	WH/VT	1430	I	—	Exterior Courtesy Lamp Control	2	0.75	WH/VT	1430	II	—
3	0.35 0.35	GY/L-GN BK/BN	328 654	I	— —	Interior Lamp Defeat Switch Signal Cellular Telephone Microphone Low Reference	3	0.35 0.35	GY/L-GN BK/BN	328 654	II	— —
4	0.35	D-BU	655	I	—	Cellular Telephone Microphone Signal	4	0.35	D-BU	655	II	—
5	0.5	RD/L-GN	1540	I	—	Battery Positive Voltage	5	0.5	RD/L-GN	1540	II	—
6	0.5	D-BU	2500	I	—	High Speed GMLAN Serial Data (+) (1)	6	0.35	D-BU	2500	II	—
7	0.5	WH	2501	I	—	High Speed GMLAN Serial Data (-) (1)	7	0.35	WH	2501	II	—
8	0.5	WH/D-BU	5986	I	—	Serial Data Communication Enable	8	0.35	WH/D-BU	5986	II	—
9	0.5	VT/L-GN	7558	I	—	LED Ambient Lighting Control 2	9	0.35	VT/L-GN	7558	II	—
10	0.35 0.5	L-GN/YE YE	7066 6817	I	— —	Entertainment Remote Enable Signal LED Backlight Dimming Control	10	0.35 0.5	L-GN/YE YE	7066 6817	II	— —
11 - 12	—	—	—	—	—	Not Occupied	11 - 12	—	—	—	—	—

X310 Driver Seat Cushion Harness to Body Harness





Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 15509588

Service Connector: Service by Harness - See Part Catalog

Description: 48-Way F 1.5 MCP, 2.8 JPT, 6.3 MCP Series, Sealed (YE)

Connector Part Information

Harness Type: Body

OEM Connector: 33157079

Service Connector: 19329476

Description: 48-Way M 1.6, 2.8, 5.8 Series, Sealed (YE)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-40 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required
III	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
IV	13575380	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
V	13578881	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
VI	13578882	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VII	13579985	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VIII	19329756	J-35616-42 (RD)	J-38125-36	Not Available	Not Available	Not Available	Not Available
IX	19331731	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X310 Driver Seat Cushion Harness to Body Harness

Driver Seat Cushion Harness to Body Harness

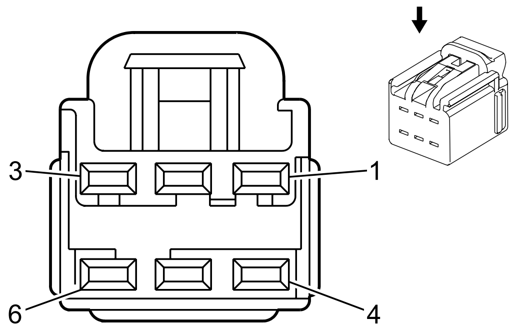
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	—	—	—	—	—	Not Occupied	1	—	—	—	—	—
2	2.5	RD/YE	5040	III	—	Battery Positive Voltage	2	2.5	RD/YE	5040	V	—
3	1.5	YE	5129	I	—	Adjustable Pedal Actuator Rearward Control	3	1.5	YE	5129	IX	—
4	1.5	L-GN/VT	5130	I	—	Adjustable Pedal Actuator Forward Control	4	1.5	L-GN/VT	5130	IX	—
5	0.35	OR/L-GN	5055	I	—	Driver Seat Position Switch Signal	5	0.35	OG/L-GN	5055	VI	—
6	0.35	OR/BR	238	I	—	Driver Seat Belt Switch Signal	6	0.35	OG/BN	238	VI	—
7	0.35	BK/OR	1363	I	—	Driver Seat Belt Switch Low Reference	7	0.35	BK/OG	1363	VI	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—
9	0.35	L-GN/GY	5286	I	—	Adjustable Pedal Switch Forward Signal	9	0.35	L-GN/GY	5286	VI	—
10	0.35	WH/GY	5285	I	—	Adjustable Pedal Switch Rearward Signal	10	0.35	WH/GY	5285	VI	—
11	2.5 4	BK BK	1150 1150	II	— —	Ground	11	4	BK	1150	VIII	—

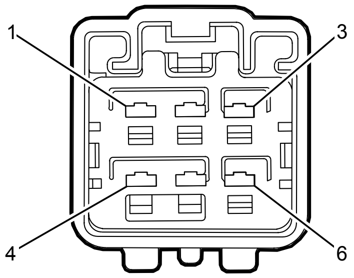
12	—	—	—	—	—	Not Occupied	12	—	—	—	—	—
13	0.5	WH/RD	6207	I	—	Memory Sensor High Reference	13	0.35	WH/RD	6207	VI	—
14	0.35	L-BU	5952	I	—	Adjustable Pedal Position Sensor Brake Signal	14	0.35	D-BU	5952	VI	—
15	0.5	BK/GY	6206	I	—	Memory Sensor Low Reference	15	0.35	BK/GY	6206	VI	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—
17	0.5	L-GN/WH	7530	I	—	Local Interconnect Network Serial Data Bus 8	17	0.5	L-GN/WH	7530	IV	—
18	—	—	—	—	—	Not Occupied	18	—	—	—	—	—
19	0.35	L-GN/VT	5906	I	—	Driver Seat Vent Motor Control (1)	19	0.35	L-GN/VT	5906	VI	—
20 - 21	—	—	—	—	—	Not Occupied	20 - 21	—	—	—	—	—
22	0.75	BR/BK	2078	I	—	Driver Heated Seat Element Low Reference	22	0.75	BN/BK	2078	IV	—
23	0.75	RD/BR	1140	I	—	Battery Positive Voltage	23	0.5	RD/BN	1140	IV	—
24	0.5	L-GN/OR	3069	I	—	Driver Side Impact Module Low Control	24	0.35	L-GN/OG	3069	VII	—
25	0.5	YE/OR	3482	I	—	Driver Seat Belt Anchor Pretensioner Low Control	25	0.35	YE/OG	3482	VII	—
		L-GN	5060	I	—	Low Speed GMLAN			L-GN	5060	IV	—

26	0.5					Serial Data	26	0.5				
27	—	—	—	—	—	Not Occupied	27	—	—	—	—	—
28	0.5	BR/YE	2080	I	—	Driver Heated Seat NTC Low Reference	28	0.5	BK/YE	2080	IV	—
29	—	—	—	—	—	Not Occupied	29	—	—	—	—	—
30	0.5	L-BU	2425	I	—	Driver Heated Back NTC Signal	30	0.5	D-BU	2425	IV	—
31	—	—	—	—	—	Not Occupied	31	—	—	—	—	—
32	0.5	YE/GY	2079	I	—	Driver Heated Seat NTC Signal	32	0.5	YE/GY	2079	IV	—
33	0.5	OR/L-BU	3068	I	—	Driver Side Impact Module High Control	33	0.35	OG/D-BU	3068	VII	—
34	0.5	OR/YE	3481	I	—	Driver Seat Belt Anchor Pretensioner High Control	34	0.35	OG/YE	3481	VII	—
35	0.35	L-GN/L-BU	614	I	—	Memory Seat Switch Set Signal	35	0.35	D-BU/L-GN	614	VI	—
36	0.75	BR	2432	I	—	Driver Heated Back Element Control	36	0.75	BN	2432	IV	—
37	0.75	BR/VT	2077	I	—	Driver Heated Seat Element Control	37	0.75	BN/VT	2077	IV	—
38 - 39	—	—	—	—	—	Not Occupied	38 - 39	—	—	—	—	—
40	0.35	BK/L-BU	5978	I	—	Memory Switch Low Reference	40	0.35	BK/D-BU	5978	VI	—

41	0.35	WH	615	I	—	Memory Seat Switch Signal (1)	41	0.35	WH	615	VI	—
42	—	—	—	—	—	Not Occupied	42	—	—	—	—	—
43	0.5	VT	4106	I	—	Center Side Impact Module Low Control	43	—	—	—	—	—
44	0.5	BR/WH	4107	I	—	Center Side Impact Module High Control	44	—	—	—	—	—
45	—	—	—	—	—	Not Occupied	45	—	—	—	—	—
46	0.35	GY	157	I	—	Interior Lamp Control	46	—	—	—	—	—
47	0.75	RD/L-GN	5140	I	—	Battery Positive Voltage	47	0.75	RD/L-GN	5140	IV	—
48	—	—	—	—	—	Not Occupied	48	—	—	—	—	—

X311 Driver Seat Back Harness to Driver Seat Cushion Harness





Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 7283-6466-40

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F Kaizen YESC Series (L-GY)

Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 7282-6466-40

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way M Kaizen YESC Series (L-GY)

Terminal Part Information

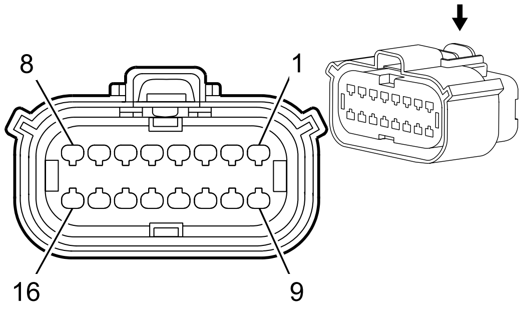
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	No Tool Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X311 Driver Seat Back Harness to Driver Seat Cushion Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	BK	—	I	—	—	1	0.5	WH/BK	570	I	—
		WH/BK	570		—	Driver Memory Seat Recline Motor Position Sensor Signal			YE/L-BU	767		—
	0.35	YE/L-BU	767		—	Driver Power Seat		1.5				

	0.75					Lumbar Motor Down Control						
2	0.35 0.75	WH/RD YE/BR	3298 768	I	— —	Memory Sensor High Reference (2) Driver Power Seat Lumbar Motor Up Control	2	0.35 1.5	WH/RD YE/BR	3298 768	I	— —
3	0.75 1.5	L-BU L-BU	611 611	I	— —	Driver Power Seat Lumbar Motor Forward Control	3	1.5	L-BU	611	I	—
4	0.75 1.5	VT VT	610 610	I	— —	Driver Power Seat Lumbar Motor Rearward Control	4	1.5	VT	610	I	—
5	1.5	L-GN/YE	276	I	—	Driver Power Seat Recline Motor Forward Control	5	1.5	L-GN/YE	276	I	—
6	1.5	L-BU/YE	277	I	—	Driver Power Seat Recline Motor Rearward Control	6	1.5	L-BU/YE	277	I	—

X312 Driver Seat Back Harness to Driver Cushion Harness (16 WAY)



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Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 33472-1886

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F 150 MX Series, Sealed (YE)

Connector Part Information

Harness Type: Driver Cushion

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way M

Terminal Part Information

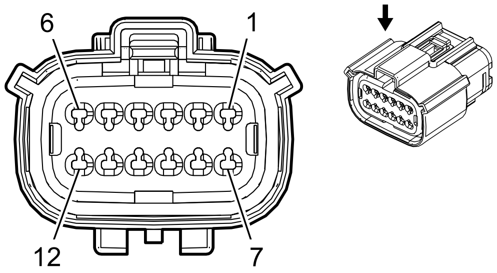
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

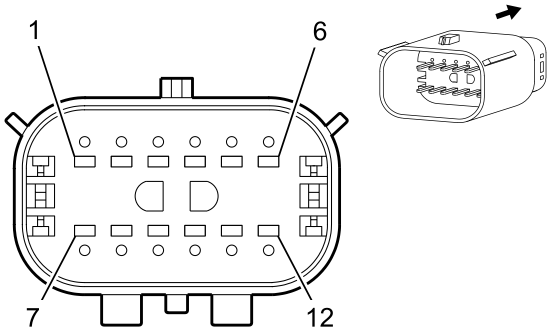
X312 Driver Seat Back Harness to Driver Cushion Harness (16 WAY)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	OR/L-BU	3068	I	—	Driver Side Impact Module High Control	1	0.5	OR/L-BU	3068	II	—
2	0.5	L-GN/OR	3069	I	—	Driver Side Impact Module Low Control	2	0.5	L-GN/OR	3069	II	—
3 - 4	—	—	—	—	—	Not Occupied	3 - 4	—	—	—	—	—
5	0.75	BK	1150	I	—	Ground	5	0.75	BK	1150	II	—
6	0.75	BR	2432	I	—	Driver Heated Back Element Control	6	0.75	BR	2432	II	—

						Element Control					
7	0.35	L-GN/VT	5906	I	—	Driver Seat Vent Motor Control (1)	7	0.35	L-GN/VT	5906	II	—
8	0.5	BK/YE	2080	I	—	Driver Heated Seat NTC Low Reference	8	0.5	BK/YE	2080	II	—
9	0.75	BR/BK	2078	I	—	Driver Heated Seat Element Low Reference	9	0.75	BR/BK	2078	II	—
10	0.5	L-BU	2425	I	—	Driver Heated Back NTC Signal	10	0.5	L-BU	2425	II	—
11	0.75	RD/L-GN	5140	I	—	Battery Positive Voltage	11	0.75	RD/L-GN	5140	II	—
12	0.35	WH/BK	570	I	—	Driver Memory Seat Recline Motor Position Sensor Signal	12	0.35	WH/BK	570	II	—
13	0.35	WH/RD	3298	I	—	Memory Sensor High Reference (2)	13	0.35	WH/RD	3298	II	—
14 - 16	—	—	—	—	—	Not Occupied	14 - 16	—	—	—	—	—

X312 Driver Seat Back Harness to Driver Seat Cushion Harness (12 WAY)





Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 33472-1292

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 150 MX Series, Sealed (YE)

Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 33482-1336

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way M 150 MX Series, Sealed (YE)

Terminal Part Information

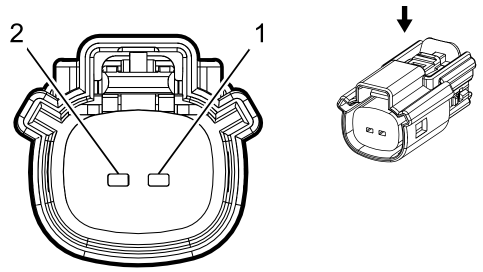
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

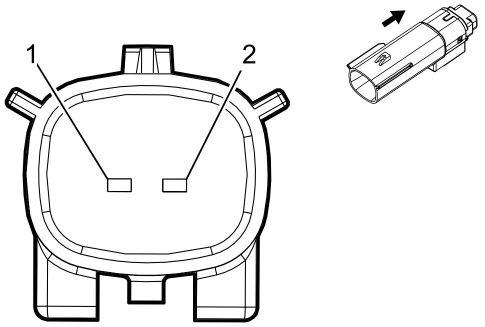
X312 Driver Seat Back Harness to Driver Seat Cushion Harness (12 WAY)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
		OR/L-BU	3068	I	—	Driver Side Impact			OR/L-BU	3068	II	—

1	0.5					Module High Control	1	0.5				
2	0.5	L-GN/OR	3069	I	—	Driver Side Impact Module Low Control	2	0.5	L-GN/OR	3069	II	—
3	0.5	VT	4106	I	—	Center Side Impact Module Low Control	3	0.5	VT	4106	II	—
4	0.5	BR/WH	4107	I	—	Center Side Impact Module High Control	4	0.5	BR/WH	4107	II	—
5	0.75	BK	1150	I	—	Ground	5	0.75	BK	1150	II	—
6	0.75	RD/L-GN	5140	I	—	Battery Positive Voltage	6	0.75	RD/L-GN	5140	II	—
7	0.35	L-GN/VT	5906	I	—	Driver Seat Vent Motor Control (1)	7	0.35	L-GN/VT	5906	II	—
8 - 10	—	—	—	—	—	Not Occupied	8 - 10	—	—	—	—	—
11	0.35	WH/BK	570	I	—	Driver Memory Seat Recline Motor Position Sensor Signal	11	0.5	WH/BK	570	II	—
12	0.35	WH/RD	3298	I	—	Memory Sensor High Reference (2)	12	0.35	WH/RD	3298	II	—

X312 Driver Seat Back Harness to Driver Seat Cushion Harness (2 WAY)





Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 33471-0223

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.5 Series, Sealed (YE)

Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 33481-0210

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 1.5 MX Series, Sealed (YE)

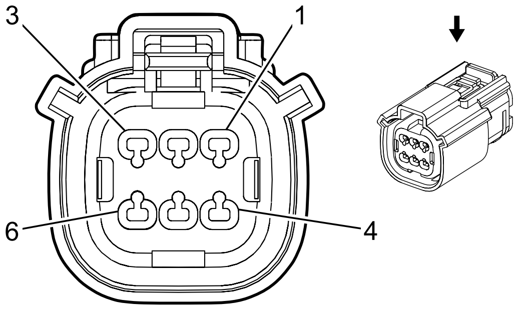
Terminal Part Information

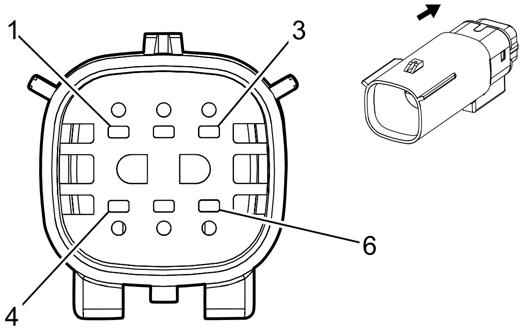
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

X312 Driver Seat Back Harness to Driver Seat Cushion Harness (2 WAY)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	OR/L-BU	3068	I	—	Driver Side Impact Module High Control	1	0.5	OR/L-BU	3068	II	—
2	0.5	L-GN/OR	3069	I	—	Driver Side Impact Module Low Control	2	0.5	L-GN/OR	3069	II	—

X312 Driver Seat Back Harness to Driver Seat Cushion Harness (6 WAY)





Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 33472-0682

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 150 MX Series, Sealed (YE)

Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 33482-0644

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way M 150 MX Series, Sealed (YE)

Terminal Part Information

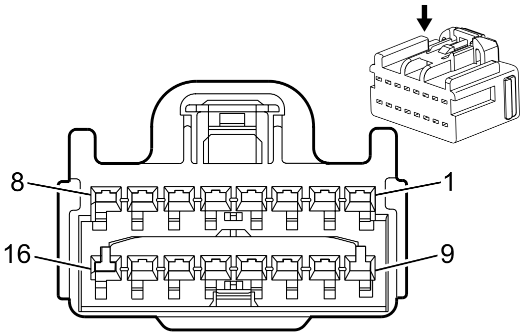
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

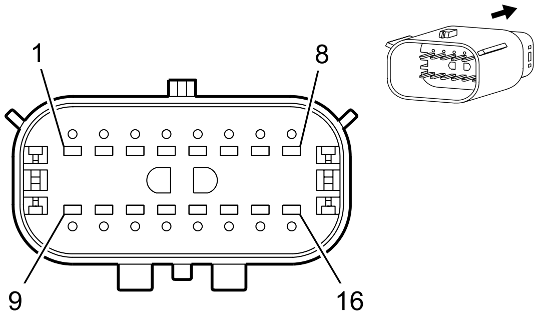
X312 Driver Seat Back Harness to Driver Seat Cushion Harness (6 WAY)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	OR/L-BU	3068	I	—	Driver Side Impact Module High Control	1	0.5	OR/L-BU	3068	II	—

2	0.5	L-GN/OR	3069	I	—	Driver Side Impact Module Low Control	2	0.5	L-GN/OR	3069	II	—
3	0.5	VT	4106	I	—	Center Side Impact Module Low Control	3	0.5	VT	4106	II	—
4	0.5	BR/WH	4107	I	—	Center Side Impact Module High Control	4	0.5	BR/WH	4107	II	—
5	0.75	BK	1150	I	—	Ground	5	0.75	BK	1150	II	—
6	0.75	BR	2432	I	—	Driver Heated Back Element Control	6	0.75	BR	2432	II	—

X312 Driver Seat Back Harness to Driver Seat Cushion Harness (AY0)





Connector Part Information

Harness Type: Driver Seat Back

OEM Connector: 7283-6453-60

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F 1.5 Kaizen Series (GN)

Connector Part Information

Harness Type: Driver Seat Cushion

OEM Connector: 33482-1777

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way M 150 MX Series, Sealed (YE)

Terminal Part Information

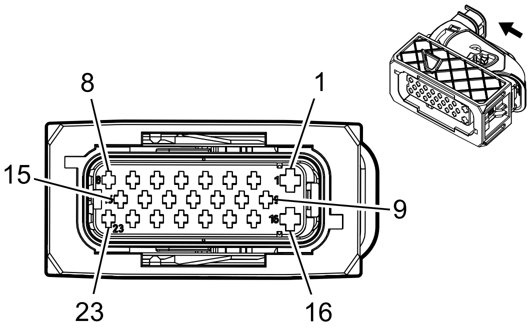
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
I	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

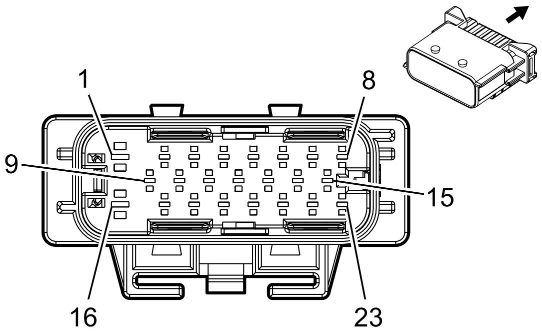
X312 Driver Seat Back Harness to Driver Seat Cushion Harness (AY0)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	OR/L-BU	3068	I	—	Driver Side Impact Module High Control	1	0.5	OR/L-BU	3068	I	—
2	0.5	L-GN/OR	3069	I	—	Driver Side Impact Module Low Control	2	0.5	L-GN/OR	3069	I	—

3	0.5	VT	4106	I	—	Center Side Impact Module Low Control	3	—	—	—	—	—
4	0.5	BR/WH	4107	I	—	Center Side Impact Module High Control	4	—	—	—	—	—
5	0.75	BK	1150	I	—	Ground	5	0.75	BK	1150	I	—
6	0.75 0.75	BR RD/L-GN	2432 5140	I	— —	Driver Heated Back Element Control Battery Positive Voltage	6	0.75	BR	2432	I	—
7	0.35	L-GN/VT	5906	I	—	Driver Seat Vent Motor Control (1)	7	0.35	L-GN/VT	5906	I	—
8 - 11	—	—	—	—	—	Not Occupied	8 - 11	—	—	—	—	—
12	0.35	WH/BK	570	I	—	Driver Memory Seat Recline Motor Position Sensor Signal	12	0.5	WH/BK	570	I	—
13	0.35	WH/RD	3298	I	—	Memory Sensor High Reference (2)	13	0.35	WH/RD	3298	I	—
14 - 16	—	—	—	—	—	Not Occupied	14 - 16	—	—	—	—	—

X314 Center Seat Harness to Body Harness (except D07)





Connector Part Information

Harness Type: Center Seat

OEM Connector: 13674800

Service Connector: Service by Harness - See Part Catalog

Description: 23-Way F 1.5 DSQ, 2.8 AST Series, Sealed (BK)

Connector Part Information

Harness Type: Body

OEM Connector: 13674783

Service Connector: 19303858

Description: 23-Way M 1.5 DSQ, 2.8 AST Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
III	13575380	J-35616-3 (GY)	J-38125-560	Not Required	Not Required	Not Required	Not Required
IV	13578881	J-35616-5 (PU)	J-38125-36	Not Required	Not Required	Not Required	Not Required
V	13578882	J-35616-3 (GY)	J-38125-560	Not Required	Not Required	Not Required	Not Required

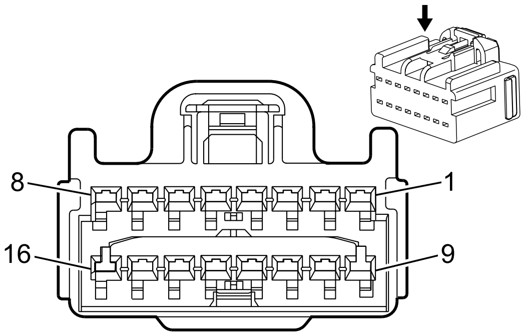
X314 Center Seat Harness to Body Harness (except D07)

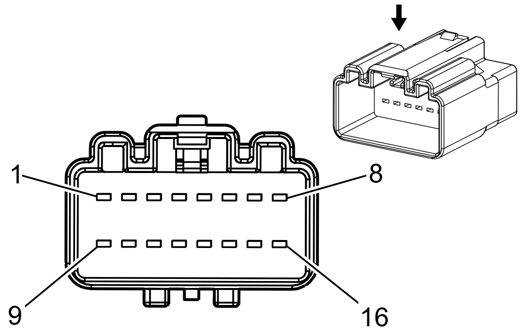
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
		RD/L-BU	840	II	—	Battery Positive Voltage			RD/D-BU	840	IV	—

1	1.5						1	1.5				
2	—	—	—	—	—	Not Occupied	2	—	—	—	—	—
3	0.35	BK	5842	II	—	Auxiliary Audio Screen (2)	3	0.5	BK	5842	III	—
4	0.35	GY	5839	II	—	Left Auxiliary Audio Signal (2)	4	0.35	GY	5839	V	—
5 - 7	—	—	—	—	—	Not Occupied	5 - 7	—	—	—	—	—
8	0.35	BK	—	II	—	—	—					
9	0.35	BK	2550	II	—	Ground	9	0.75	BK	2550	III	—
10	—	—	—	—	—	Not Occupied	10	—	—	—	—	—
11	0.35	L-GN	5841	II	—	Right Auxiliary Audio Signal (2)	11	0.35	L-GN	5841	V	—
12	0.35	L-BU	2060	II	—	Auxiliary Detection Signal	12	0.35	D-BU	2060	V	—
13 - 15	—	—	—	—	—	Not Occupied	13 - 15	—	—	—	—	—
16	1.5	BK	1250	II	—	Ground	16	1.5	BK	1250	IV	—
17	—	—	—	—	—	Not Occupied	17	—	—	—	—	—
18	0.75	RD/VT	340	I	—	Battery Positive Voltage	18	0.75	RD/VT	340	III	—
19	0.35	VT	5843	II	—	Auxiliary Audio Common Signal	19	0.35	VT	5843	V	—

20 - 23	—	—	—	—	—	—	20 - 23	—	—	—	—	—

X315 Headliner Harness to Body Harness





Connector Part Information

Harness Type: Headliner

OEM Connector: 10847013

Service Connector: 89047090

Description: 16-Way F 1.5 Kaizen Series (GN)

Connector Part Information

Harness Type: Body

OEM Connector: 13507433

Service Connector: 89047072

Description: 16-Way M 1.5 Kaizen Series (GN)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578891	J-35616-2A (GY)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
II	13575818	J-35616-3 (GY)	J-38125-553	Not Available	Not Available	Not Available	Not Available
III	19119440	J-35616-3 (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

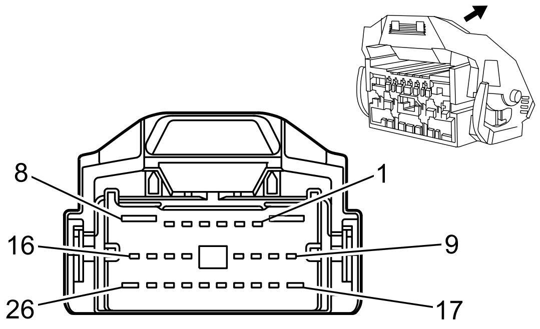
X315 Headliner Harness to Body Harness

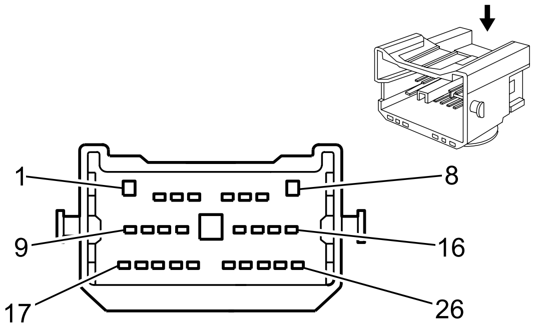
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 2	—	—	—	—	—	Not Occupied	1 - 2	—	—	—	—	—
3	0.35	L-GN/RD	2308	I	—	Passenger Air Bag Off Indicator Control	3	0.35	L-GN	2308	II	—

4	0.35	D-BU	2307	I	—	Passenger Air Bag On Indicator Control	4	0.35	D-BU	2307	II	—
5	0.35	VT/WH	5234	I	—	Passenger Seat Belt Indicator Control	5	0.35	VT/WH	5234	III	—
6	0.5	VT/GY	1054	I	—	Stop Lamp Control	6	0.5	VT/GY	1054	II	—
7 - 9	—	—	—	—	—	Not Occupied	7 - 9	—	—	—	—	—
10	0.35	L-GN/BK	3008	I	—	Noise Reduction Microphone 1 Low Reference	10	0.35	L-GN/BK	3008	II	—
11	0.35 0.5	L-GN/WH GY	3005 157	I	— —	Noise Reduction Microphone 1 Signal Interior Lamp Control	11	0.35 0.5	L-GN/BN GY	3005 157	II	— —
12	0.35 0.5	D-BU/BK WH/BN	3009 6815	I	— —	Noise Reduction Microphone 2 Low Reference Inadvertent Power Control	12	0.35 0.5	D-BU/BK WH/BN	3009 6815	II	— —
13	0.35	D-BU/YE	3006	I	—	Noise Reduction Microphone 2 Signal	13	0.35	D-BU/YE	3006	II	—
14	0.35 0.35	GY/D-BU GY/BN	156 3010	I	— —	Courtesy Lamp Switch Signal Noise Reduction Microphone 3 Low Reference	14	0.35 0.35	GY GY/BN	156 3010	II	— —

15	0.35	GY/D-BU	3007	I	—	Noise Reduction Microphone 3 Signal	15	0.35	GY/D-BU	3007	II	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—

X316 Headliner Harness to Overhead Console Harness





Connector Part Information

- Harness Type: Headliner
- OEM Connector: 15518265
- Service Connector: 13587877
- Description: 26-Way F 1.5, 2.8, 6.3 Series (BK)

Connector Part Information

- Harness Type: Overhead Console
- OEM Connector: 13536441
- Service Connector: Service by Harness - See Part Catalog
- Description: 26-Way M Hybrid Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13578891	J-35616-2A (GY)	J-38125-11A	Not Available	Not Available	Not Available	Not Available
II	13582322	J-35616-35 (VT)	J-38125-11A	7116-4110-02	12	E	C
III	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
IV	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X316 Headliner Harness to Overhead Console Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 2	—	—	—	—	—	Not Occupied	1 - 2	—	—	—	—	—
3	0.35	VT/YE	43	I	—	Accessory Ignition Voltage	3	0.35	VT/YE	43	III	—

4	0.5	BK	1050	I	—	Ground	4	0.5	BK	1050	III	—
5	0.35	GY/L-GN	328	I	—	Interior Lamp Defeat Switch Signal	5	0.35	GY/L-GN	328	III	—
6	0.35	GY/D-BU	156	I	—	Courtesy Lamp Switch Signal	6	0.35	GY	156	III	—
7	0.5	WH/BN	6815	I	—	Inadvertent Power Control	7	0.5	WH/BN	6815	III	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—
9	0.35	VT/L-GN	7558	I	—	LED Ambient Lighting Control 2	9	0.35	VT/L-GN	7558	III	—
10	0.5	YE	6817	I	—	LED Backlight Dimming Control	10	0.5	YE	6817	III	—
11	0.35	VT/BK	1139	I	—	Run/Crank Ignition 1 Voltage	11	0.35	VT/WH	1139	III	—
12	0.35	VT/WH	5234	I	—	Passenger Seat Belt Indicator Control	12	0.35	VT/WH	5234	III	—
13	0.35	D-BU	2307	I	—	Passenger Air Bag On Indicator Control	13	0.35	D-BU	2307	III	—
14	0.35	L-GN/RD	2308	I	—	Passenger Air Bag Off Indicator Control	14	0.35	L-GN	2308	III	—
15 - 16	—	—	—	—	—	Not Occupied	15 - 16	—	—	—	—	—

17	0.5	RD/YE	240	II	—	Battery Positive Voltage	17	0.35 0.5	RD/YE RD/YE	240 240	IV	— —
18	—	—	—	—	—	Not Occupied	18	—	—	—	—	—
19	0.35	YE/VT	6191	I	—	Power Sliding Window Switch Open Signal	19	0.35	YE/VT	6191	III	—
20	0.35	WH	6192	I	—	Power Sliding Window Switch Close Signal	20	0.35	WH	6192	III	—
21	0.5	GY	157	I	—	Interior Lamp Control	21	0.5	GY	157	III	—
22	—	—	—	—	—	Not Occupied	22	—	—	—	—	—
23	0.35	VT/YE	43	I	—	Accessory Ignition Voltage	23	0.35	VT/YE	43	III	—
24 - 26	—	—	—	—	—	Not Occupied	24 - 26	—	—	—	—	—

X318 Headliner Harness to Overhead Console Harness

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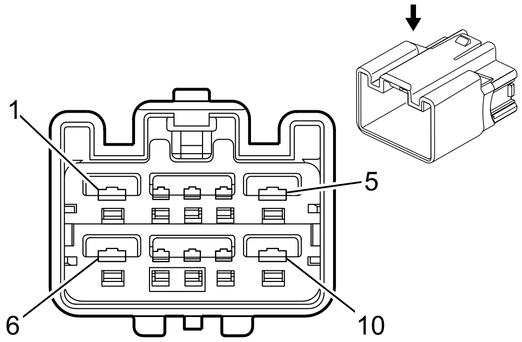

Connector Part Information

Harness Type: Headliner

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way F

Connector Part Information

Harness Type: Overhead Console

OEM Connector: 13506926

Service Connector: Service by Harness - See Part Catalog

Description: 10-Way M YESC Kaizen Series (L-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-41 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required
III	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X318 Headliner Harness to Overhead Console Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
2	0.35	L-GN/WH	100	I	—	Sunroof Switch Open Signal	2	0.35	L-GN/WH	100	II	—
3	0.35	BN/D-BU	2074	I	—	Sunroof Switch Express Signal	3	0.35	BN/D-BU	2074	II	—
4	0.35	GY/VT	2075	I	—	Sunroof Switch Close Vent Signal	4	0.35	GY/VT	2075	II	—
6	0.35	VT/YE	43	I	—	Accessory Ignition Voltage	6	0.35	VT/YE	43	III	—

6	0.35					Voltage	6	0.35			
7	0.35	D-BU/WH	110	I	—	Sunroof Switch Close Signal	7	0.35	D-BU/WH	110	II	—
8	0.35	YE/VT	144	I	—	Sunroof Switch Open Vent Signal	8	0.35	YE/VT	144	II	—

X319 Chassis Harness to Right A-Pillar Harness

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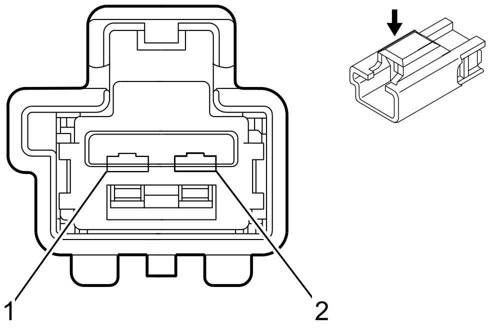


Connector Part Information

Harness Type: Chassis

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F

Connector Part Information

Harness Type: Right A-Pillar

OEM Connector: 10846812

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M Kaizen YESC Series (L-GY)

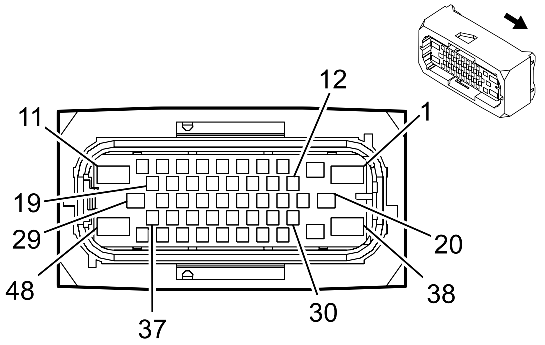
Terminal Part Information

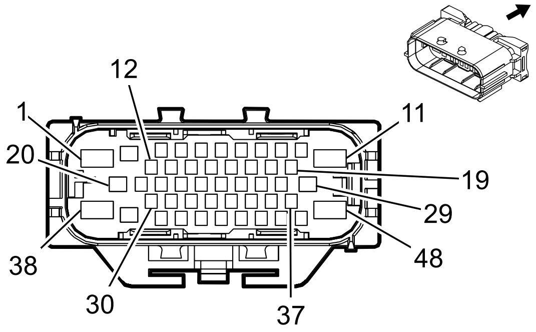
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X319 Chassis Harness to Right A-Pillar Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/L-GN	3140	I	—	Battery Positive Voltage	1	2.5	RD/L-GN	3140	II	—
2	2.5	BK	1050	I	—	Ground	2	2.5	BK	1050	II	—

X320 Passenger Seat Cushion Harness to Body Harness





Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 15509588

Service Connector: Service by Harness - See Part Catalog

Description: 48-Way F 1.5 MCP, 2.8 JPT, 6.3 MCP Series, Sealed (YE)

Connector Part Information

Harness Type: Body

OEM Connector: 33157081

Service Connector: 19329476

Description: 48-Way M 1.6, 2.8, 5.8 Series, Sealed (YE)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-40 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required
III	Not Required	J-35616-4A (PU)	Not Required	Not Required	Not Required	Not Required	Not Required
IV	13575380	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
V	13578881	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
VI	13578882	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VII	13579985	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VIII	19329756	J-35616-42 (RD)	J-38125-36	Not Available	Not Available	Not Available	Not Available

X320 Passenger Seat Cushion Harness to Body Harness

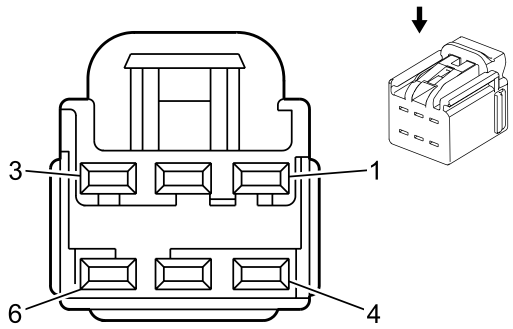
Pin	Size	Color	Circuit	Terminal Type	Option	Function	Pin	Size	Color	Circuit	Terminal Type	Option

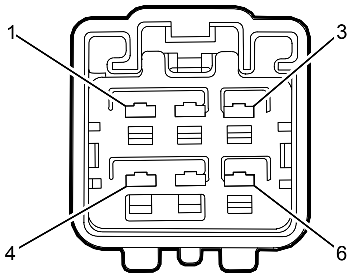
				ID							**ID**	
1	—	—	—	—	—	Not Occupied	1	—	—	—	—	—
2	2.5	RD/BR	1440	III	—	Battery Positive Voltage	2	2.5	RD/BN	1440	V	—
3 - 4	—	—	—	—	—	Not Occupied	3 - 4	—	—	—	—	—
5	0.35	OR/L-BU	5056	I	—	Passenger Seat Position Switch Signal	5	0.35	OG/D-BU	5056	VI	—
6	0.35	OR/VT	1362	I	—	Passenger Seat Belt Switch Signal	6	0.35	OG/VT	1362	VI	—
7	0.35	BK/OR	1361	I	—	Passenger Seat Belt Switch Low Reference	7	0.35	BK/OG	1361	VI	—
8	0.75	BR/VT	2077	I	—	Driver Heated Seat Element Control	8	0.75	BN/VT	2077	IV	—
9	0.75	BR	2432	I	—	Driver Heated Back Element Control	9	0.75	BN	2432	IV	—
10	—	—	—	—	—	Not Occupied	10	—	—	—	—	—
11	2.5 4	BK BK	1250 1250	II	— —	Ground	11	4	BK	1250	VIII	—
12 - 13	—	—	—	—	—	Not Occupied	12 - 13	—	—	—	—	—
14	0.35	L-BU/RD	5612	I	—	Passenger Seat Belt Tension Sensor 5 Volt Reference	14	0.35	D-BU/RD	5612	VI	—
15	0.35	VT/OR	5611	I	—	Passenger Seat Belt Tension Sensor Signal	15	0.35	VT/OG	5611	VI	—

15	0.35					Tension Sensor Signal	15	0.35			
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—
17	0.75	RD/L-GN	6140	I	—	Battery Positive Voltage	17	0.75	RD/L-GN	6140	IV	—
18	—	—	—	—	—	Not Occupied	18	—	—	—	—	—
19	0.35	L-GN/VT	5906	I	—	Driver Seat Vent Motor Control (1)	19	0.35	L-GN/VT	5906	VI	—
20 - 21	—	—	—	—	—	Not Occupied	20 - 21	—	—	—	—	—
22	0.75	BR/BK	2078	I	—	Driver Heated Seat Element Low Reference	22	0.75	BN/BK	2078	IV	—
23	—	—	—	—	—	Not Occupied	23	—	—	—	—	—
24	0.5	BR/OR	3067	I	—	Passenger Side Impact Module Low Control	24	0.35	BN/OG	3067	VII	—
25	0.5	GY/OR	3480	I	—	Passenger Seat Belt Anchor Pretensioner Low Control	25	0.35	GY/OG	3480	VII	—
26	0.35	L-GN	5060	I	—	Low Speed GMLAN Serial Data	26	0.35	L-GN	5060	VI	—
27	0.35	L-GN/L-BU	6133	I	—	Local Interconnect Network Serial Data Bus 2	27	0.5	L-GN/D-BU	6133	IV	—
28	0.5	BK/YE	2080	I	—	Driver Heated Seat NTC Low Reference	28	0.5	BK/YE	2080	IV	—
29	—	—	—	—	—	Not Occupied	29	—	—	—	—	—
30	0.5	L-BU	2425	I	—	Driver Heated Back NTC Signal	30	0.5	D-BU	2425	IV	—

31	—	—	—	—	—	Not Occupied	31	—	—	—	—	—
32	0.5	YE/GY	2079	I	—	Driver Heated Seat NTC Signal	32	0.5	YE/GY	2079	IV	—
33	0.5	OR/GY	3066	I	—	Passenger Side Impact Module High Control	33	0.35	OG/GY	3066	VII	—
34	0.5	OR/BR	3479	I	—	Passenger Seat Belt Anchor Pretensioner High Control	34	0.35	OG/BN	3479	VII	—
35	0.35	RD/L-GN	4440	I	—	Battery Positive Voltage	35	0.35	RD/L-GN	4440	VI	—
36	0.35	BK/WH	2751	I	—	Signal Ground	36	0.5	BK/WH	2751	IV	—
37 - 46	—	—	—	—	—	Not Occupied	37 - 46	—	—	—	—	—
47	0.75	RD/L-GN	5140	I	—	Battery Positive Voltage	47	0.75	RD/L-GN	5140	IV	—
48	—	—	—	—	—	Not Occupied	48	—	—	—	—	—

X321 Passenger Seat Back Harness to Passenger Seat Cushion Harness





Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 7283-6466-40

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F Kaizen YESC Series (L-GY)

Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 7282-6466-40

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way M Kaizen YESC Series (L-GY)

Terminal Part Information

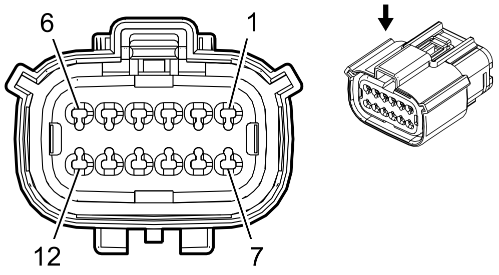
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

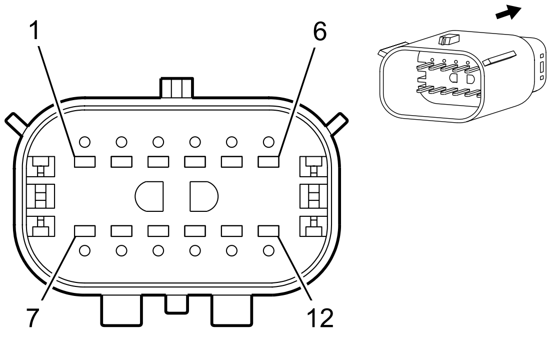
X321 Passenger Seat Back Harness to Passenger Seat Cushion Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	L-BU/YE	792	I	—	Passenger Power Seat Lumbar Motor Down Control	1	1.5	L-BU/YE	792	II	—
2	0.75	BR/YE	793	I	—	Passenger Power Seat Lumbar Motor Up Control	2	1.5	BR/YE	793	II	—

3	0.75 1.5	L-BU L-BU	211 211	I	— —	Passenger Power Seat Lumbar Motor Forward Control	3	1.5	L-BU	211	II	—
4	0.75 1.5	VT VT	210 210	I	— —	Passenger Power Seat Lumbar Motor Rearward Control	4	1.5	VT	210	II	—
5	1.5	L-GN	76	I	—	Passenger Power Seat Recline Motor Forward Control	5	1.5	L-GN	76	II	—
6	1.5	L-BU/BR	77	I	—	Passenger Power Seat Recline Motor Rearward Control	6	1.5	L-BU/BR	77	II	—

X322 Passenger Seat Back Harness to Passenger Seat Cushion Harness (12 WAY)





Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 33472-1292

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way F 150 MX Series, Sealed (YE)

Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 33482-1336

Service Connector: Service by Harness - See Part Catalog

Description: 12-Way M 150 MX Series, Sealed (YE)

Terminal Part Information

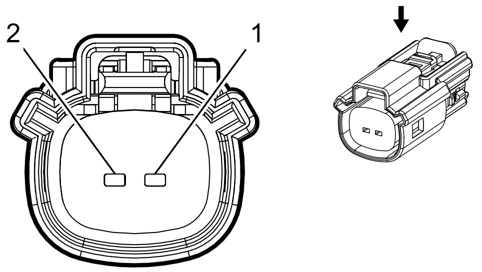
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

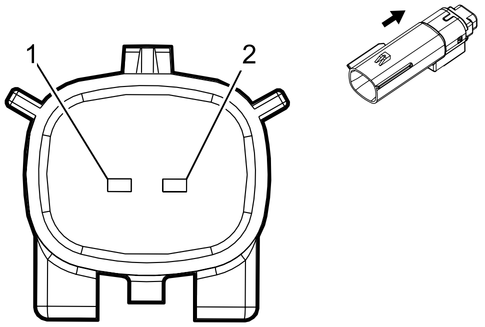
X322 Passenger Seat Back Harness to Passenger Seat Cushion Harness (12 WAY)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	OR/GY	3066	I	—	Passenger Side Impact Module High Control	1	0.5	OR/GY	3066	II	—
2	0.5	BR/OR	3067	I	—	Passenger Side Impact Module Low Control	2	0.5	BR/OR	3067	II	—

3	0.75	BK	1250	I	—	Ground	3	0.75	BK	1250	II	—
4	0.75	WH/BR	2481	I	—	Passenger Heated Back Element Control	4	0.75	WH/BR	2481	II	—
5	0.35	VT/WH	5908	I	—	Passenger Seat Vent Motor Control (1)	5	0.35	VT/WH	5908	II	—
6	0.5	BK/L-GN	2482	I	—	Passenger Heated Back NTC Low Reference	6	0.5	BK/L-GN	2482	II	—
7	0.75	GY/BK	2480	I	—	Passenger Heated Seat Element Low Reference	7	0.75	GY/BK	2480	II	—
8	0.5	WH/L-BU	2436	I	—	Passenger Heated Back NTC Signal	8	0.5	WH/L-BU	2436	II	—
9	0.75	RD/L-GN	6140	I	—	Battery Positive Voltage	9	0.75	RD/L-GN	6140	II	—
10 - 12	—	—	—	—	—	Not Occupied	10 - 12	—	—	—	—	—

X322 Passenger Seat Back Harness to Passenger Seat Cushion Harness (2 WAY)





Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 33471-0223

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 1.5 Series, Sealed (YE)

Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 33481-0210

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M 1.5 MX Series, Sealed (YE)

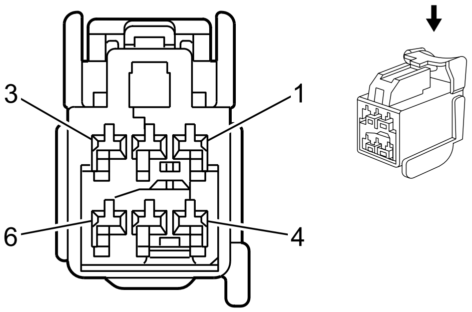
Terminal Part Information

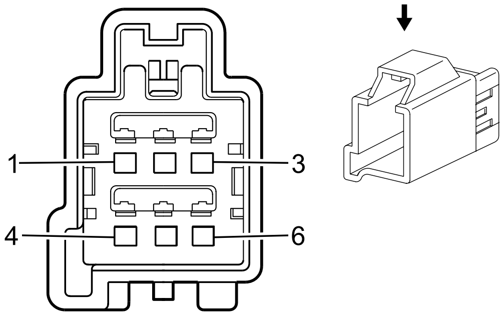
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

X322 Passenger Seat Back Harness to Passenger Seat Cushion Harness (2 WAY)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	OR/GY	3066	I	—	Passenger Side Impact Module High Control	1	0.5	OR/GY	3066	II	—
2	0.5	BR/OR	3067	I	—	Passenger Side Impact Module Low Control	2	0.5	BR/OR	3067	II	—

X322 Passenger Seat Back Harness to Passenger Seat Cushion Harness (6 WAY)





Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 7283-6454-40

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 1.5 Kaizen Series (L-GY)

Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 7282-6454-40

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way M 1.5 Series (L-GY)

Terminal Part Information

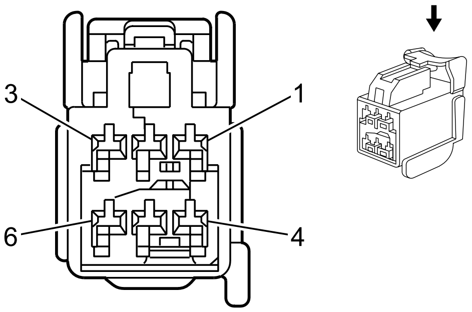
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

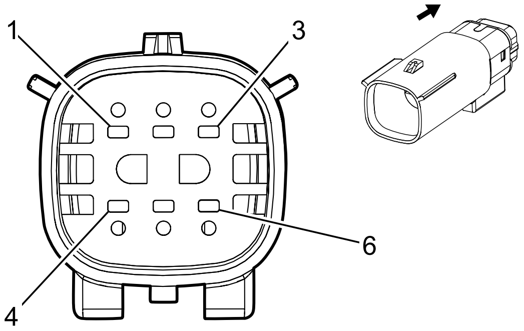
X322 Passenger Seat Back Harness to Passenger Seat Cushion Harness (6 WAY)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	OR/GY	3066	I	—	Passenger Side Impact Module High Control	1	0.5	OR/GY	3066	II	—
2	0.5	BR/OR	3067	I	—	Passenger Side Impact Module Low Control	2	0.5	BR/OR	3067	II	—

3	0.75	BK	1250	I	—	Ground	3	0.75	BK	1250	II	—
4	0.75 0.75	WH/BR RD/L-GN	2481 6140	I	— —	Passenger Heated Back Element Control Battery Positive Voltage	4	0.75	WH/BR	2481	II	—
5	0.35	VT/WH	5908	I	—	Passenger Seat Vent Motor Control (1)	5	—	—	—	—	—
6	0.35	BK	—	I	—	—	6	—	—	—	—	—

X322 Passenger Seat Back Harness to Passenger Seat Cushion Harness (6 WAY-1)





Connector Part Information

Harness Type: Passenger Seat Back

OEM Connector: 19152836

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F 1.5 Kaizen Series (L-GY)

Connector Part Information

Harness Type: Passenger Seat Cushion

OEM Connector: 33482-0644

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way M 150 MX Series, Sealed (YE)

Terminal Part Information

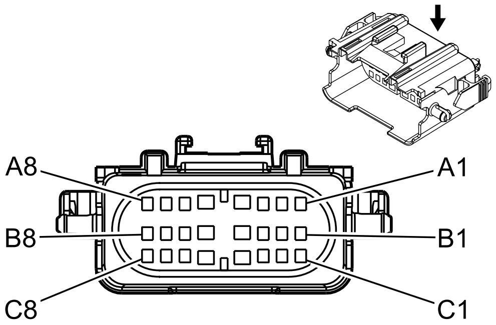
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required

X322 Passenger Seat Back Harness to Passenger Seat Cushion Harness (6 WAY-1)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	OR/GY	3066	I	—	Passenger Side Impact Module High Control	1	0.5	OR/GY	3066	II	—
2	0.5	BR/OR	3067	I	—	Passenger Side Impact Module Low Control	2	0.5	BR/OR	3067	II	—

3	0.75	BK	1250	I	—	Ground	3	0.75	BK	1250	II	—
4	0.75 0.75	WH/BR RD/L-GN	2481 6140	I	— —	Passenger Heated Back Element Control Battery Positive Voltage	4	0.75	WH/BR	2481	II	—
5 - 6	—	—	—	—	—	Not Occupied	5 - 6	—	—	—	—	—

X345 Engine Harness to Reductant Tank Harness (LML)



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Connector Part Information

Harness Type: Engine Chassis

OEM Connector: 15366099

Service Connector: 19153767

Description: 24-Way F 150, 280 GT Series, Sealed (BK)

Connector Part Information

Harness Type: Reductant Tank Harness

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 24-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575392	J-35616-4A (PU)	J-38125-553	15304720	15	4	5
II	13575412	J-35616-14 (GN)	J-38125-553	12191819	9	E	1
III	13575412	J-35616-14 (GN)	J-38125-553	Not Available	Not Available	Not Available	Not Available
IV	13576356	J-35616-4A (PU)	J-38125-553	15304719	14	2	5
V	19332844	J-35616-14 (GN)	J-38125-553	12191819	9	2	1
VI	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

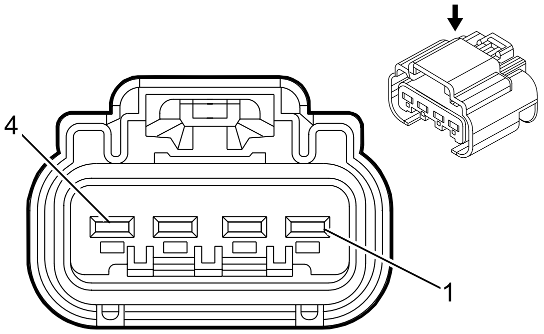
X345 Engine Harness to Reductant Tank Harness (LML)

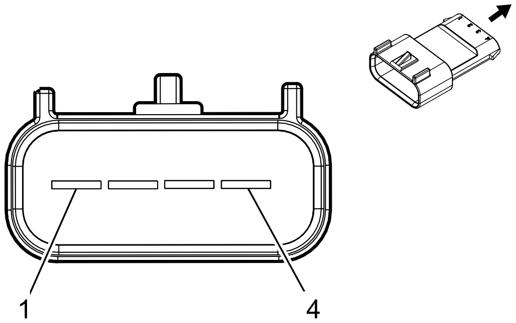
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A1	0.75	BK/WH	451	III	—	Signal Ground	A1	0.75	BK/WH	451	VI	—
A2	0.75	VT/D-BU	5290	V	—	Powertrain Main Relay Fused Supply (1)	A2	0.75	VT/D-BU	5290	VI	—
A3	—	—	—	—	—	Not Occupied	A3	—	—	—	—	—

A4	1	BK	550	IV	—	Ground	A4	1	BK	550	VI	—
A5	1.5	VT/WH	3676	I	—	DEF Heating Tank (2) Heater Control	A5	1.5	VT/WH	3676	VI	—
A6	0.5	D-BU	3105	II	—	DEF Smart Pump Control	A6	0.5	D-BU	3105	VI	—
A7	0.75	L-GN	3101	III	—	DEF Reverting Valve High Control	A7	0.75	L-GN	3101	VI	—
A8	0.5	YE/RD	3106	II	—	DEF Pressure Sensor 5 Volt Reference	A8	0.5	YE/RD	3106	VI	—
B1	0.5	D-BU/BK	7493	II	—	High Speed GMLAN Serial Data (+)(3)	B1	0.5	D-BU/BK	7493	VI	—
B2	0.5	D-BU/BK	7493	II	—	High Speed GMLAN Serial Data (+)(3)	B2	0.5	D-BU/BK	7493	VI	—
B3	—	—	—	—	—	Not Occupied	B3	—	—	—	—	—
B4	1	BK	550	IV	—	Ground	B4	1	BK	550	VI	—
B5	1.5	GY/WH	3675	I	—	DEF Pump Heater Control	B5	1.5	GY/WH	3675	VI	—
B6	0.5	GY	3103	II	—	DEF Smart Pump Control	B6	0.5	GY	3103	VI	—
B7	0.75	WH/BK	3102	III	—	DEF Reverting Valve Low Control	B7	0.75	WH/BK	3102	VI	—

B8	0.5	BN/YE	3108	II	—	DEF Pressure Sensor Signal	B8	0.5	BN/YE	3108	VI	—
C1	0.5	WH	7494	II	—	High Speed GMLAN Serial Data (-)(3)	C1	0.5	WH	7494	VI	—
C2	0.5	WH	7494	II	—	High Speed GMLAN Serial Data (-)(3)	C2	0.5	WH	7494	VI	—
C3	—	—	—	—	—	Not Occupied	C3	—	—	—	—	—
C4	1	BK	550	IV	—	Ground	C4	1	BK	550	VI	—
C5	1.5	WH/BN	3677	I	—	DEF Reservoir Heater Control	C5	1.5	WH/BN	3677	VI	—
C6	0.5	BK/PU	3104	II	—	DEF Smart Pump Low Reference	C6	0.5	BK/PU	3104	VI	—
C7	—	—	—	—	—	Not Occupied	C7	—	—	—	—	—
C8	0.5	BK/L-GN	3107	II	—	DEF Pressure Sensor Low Reference	C8	0.5	BK/L-GN	3107	VI	—

X350 Chassis Harness to CNG Rear Harness (LC8)





Connector Part Information

Harness Type: Chassis

OEM Connector: 13527865

Service Connector: 13587174

Description: 4-Way F 280 GT Series, Sealed (NA)

Connector Part Information

Harness Type: CNG Rear

OEM Connector: 410039

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way M 280 GT Series, Sealed (NA)

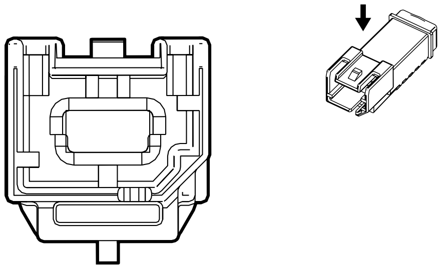
Terminal Part Information

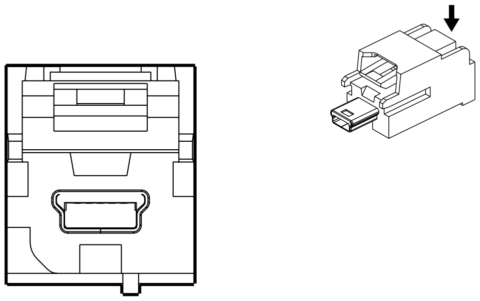
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	J-35616-5 (PU)	J-38125-553	15304732	8	A	5

X350 Chassis Harness to CNG Rear Harness (LC8)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	GY	120	I	-	Battery Positive Voltage	1	2	GY	-	I	-
2	0.5	BK	2150	I	-	Ground	2	2	BK	-	I	-
3-4	-	-	-	-	-	Not Occupied	3-4	-	-	-	-	-

X351 Instrument Panel LVDS to Headliner LVDS (U42)





Connector Part Information

Harness Type: Instrument Panel LVDS

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: LVDS Cable Connector (WH)

Connector Part Information

Harness Type: Headliner LVDS

OEM Connector: Not Available

Service Connector: Service by Cable Assembly — See Part Catalog

Description: LVDS Cable Connector (WH)

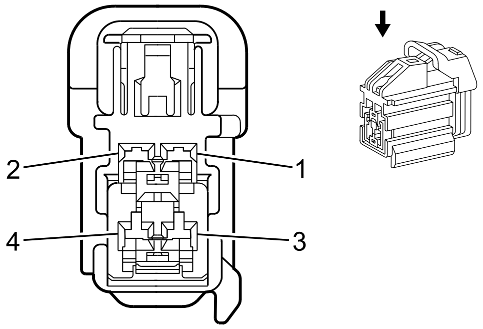
Terminal Part Information

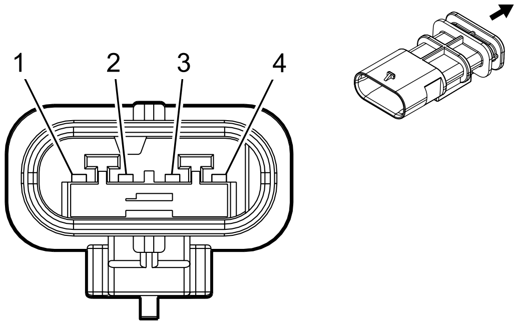
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray	Core Crimp	Insulation Crimp
I	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

X351 Instrument Panel LVDS to Headliner LVDS (U42)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
—	—	LVDS	—	I	—	Infotainment Display Signal	—	—	LVDS	—	I	—

X363 High Voltage Battery Monitoring Harness to Body Harness





Connector Part Information

Harness Type: High Voltage Battery Monitoring

OEM Connector: 10846820

Service Connector: Service by Harness - See Part Catalog

Description: 4-Way F Kaizen YESC Series (L-GY)

Connector Part Information

Harness Type: Body

OEM Connector: 33178128

Service Connector: Pending

Description: 4-Way M 1.2 MCON-CB Series, Sealed (BK)

Terminal Part Information

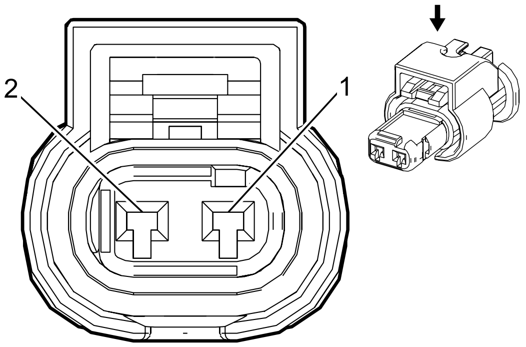
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-13 (BU)	No Tool Required	Not Required	Not Required	Not Required	Not Required

X363 High Voltage Battery Monitoring Harness to Body Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	WH	6276	I	—	Fan Speed Sensor Low Reference	1	0.5	BK	1250	II	—
2	0.35	WH	5598	I	—	Fan Speed Signal (1)	2	0.35	YE/L-GN	5598	II	—

3	0.35	WH	5599	I	—	Fan Speed Signal (2)	3	0.35	D-BU/VT	5599	II	—
4	0.5	WH	6277	I	—	Fan Speed Sensor Control	4	0.5	VT/BK	739	II	—

X380 Body Harness to Roof Rail Air Bag Jumper Harness



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Connector Part Information

Harness Type: Body

OEM Connector: 13863037

Service Connector: 13587886

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (YE with BK Inner Connector)

Connector Part Information

Harness Type: Roof Rail Air Bag Jumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M

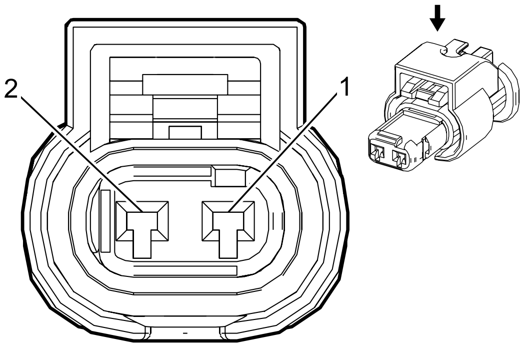
Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X380 Body Harness to Roof Rail Air Bag Jumper Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	OG/L-GN	5019	I	—	Left Front Head Curtain Module High Control	1	0.35	OG/L-GN	5019	II	—
2	0.35	VT/OG	5020	I	—	Left Front Head Curtain Module Low Control	2	0.35	VT/OG	5020	II	—

X390 Body Harness to Roof Rail Air Bag Jumper Harness



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Connector Part Information

Harness Type: Body

OEM Connector: 13863037

Service Connector: 13587886

Description: 2-Way F 1.2 Multiple Contact Point Series, Sealed (YE with BK Inner Connector)

Connector Part Information

Harness Type: Roof Rail Air Bag Jumper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X390 Body Harness to Roof Rail Air Bag Jumper Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	OG/GY	5021	I	—	Right Front Head Curtain Module High Control	1	0.35	OG/GY	5021	II	—
2	0.35	WH/OG	5022	I	—	Right Front Head Curtain Module Low Control	2	0.35	WH/OG	5022	II	—

X400 Engine Harness to Chassis Harness

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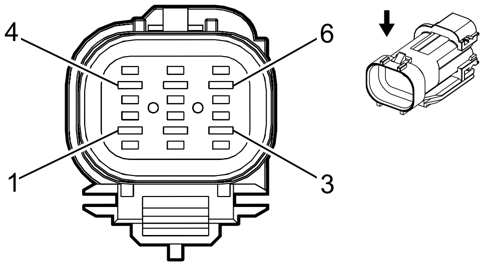

Connector Part Information

Harness Type: Engine

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F

Connector Part Information

Harness Type: Chassis

OEM Connector: 10865189

Service Connector: 93185233

Description: 6-Way M 2.8 Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X400 Engine Harness to Chassis Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	WH/VT	1430	I	—	Exterior Courtesy Lamp Control	1	0.75	WH/VT	1430	II	—
4	0.5	VT/GY	1054	I	—	Stop Lamp Control	4	0.5	VT/GY	1054	II	—
6	1	BK	1750	I	—	Ground	6	1	BK	1750	II	—

X410 Tail Lamp - Left Harness to Chassis Harness (Heavy Duty)

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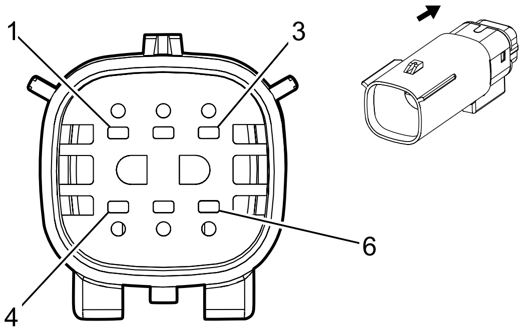

Connector Part Information

Harness Type: Tail Lamp - Left

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F

Connector Part Information

Harness Type: Chassis

OEM Connector: 33171740

Service Connector: 19333222

Description: 6-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X410 Tail Lamp - Left Harness to Chassis Harness (Heavy Duty)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	YE/L-GN	18	I	—	Left Rear Stop/Turn Lamp Control	1	0.75	YE/L-GN	18	II	—
4	0.75	L-GN/WH	24	I	—	Backup Lamp Control	4	0.75	L-GN/WH	24	II	—
5	0.75	VT/GY	709	I	—	Left Park Lamp Control	5	0.75	VT/GY	709	II	—
6	1.5	BK	1750	I	—	Ground	6	1.5	BK	1750	II	—

X410 Tail Lamp - Left Harness to Chassis Harness (Light Duty)

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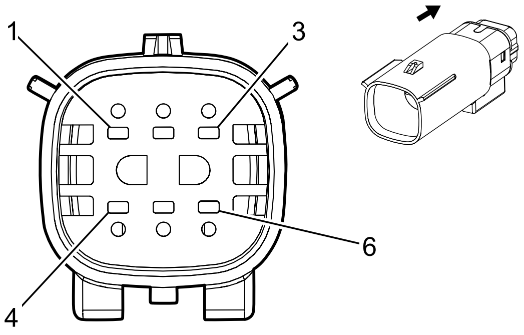


Connector Part Information

Harness Type: Tail Lamp - Left

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F

Connector Part Information

Harness Type: Chassis

OEM Connector: 13950454

Service Connector: 13576414

Description: 6-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

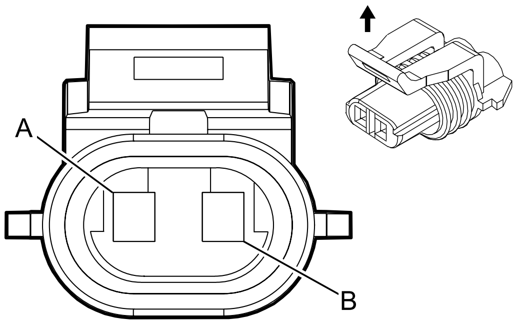
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X410 Tail Lamp - Left Harness to Chassis Harness (Light Duty)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	YE/L-GN	18	I	—	Left Rear Stop/Turn Lamp Control	1	0.75	YE/L-GN	18	II	—
2	0.5	YE/BK	5356	I	—	Left Tail Lamp Outage Detection Signal	2	0.5	YE/BK	5356	II	—
4	0.75	L-GN/WH	24	I	—	Backup Lamp Control	4	0.75	L-GN/WH	24	II	—
5	0.75	VT/GY	709	I	—	Left Park Lamp Control	5	0.75	VT/GY	709	II	—

6	1.5	BK	1750	I	—	Ground	6	1.5	BK	1750	II	—

X416 Rear Bumper Harness to Camper Harness



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Connector Part Information

Harness Type: Rear Bumper

OEM Connector: 12052644

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way F 150 Metri-Pack Series, Sealed (GY)

Connector Part Information

Harness Type: Camper

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 2-Way M

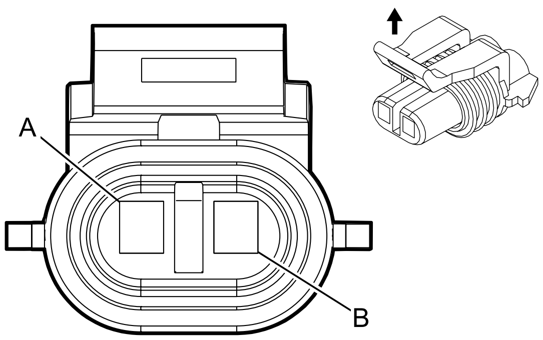
Terminal Part Information

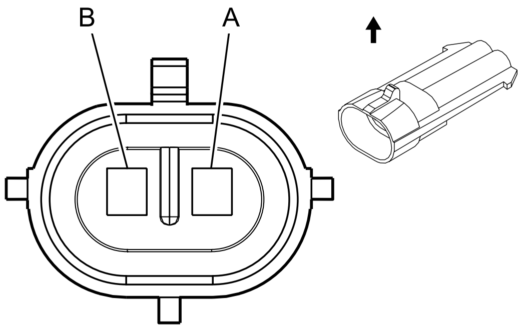
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required

X416 Rear Bumper Harness to Camper Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.5	VT/GY	709	I	—	Left Park Lamp Control	A	0.5	VT/GY	709	II	—
B	0.5	BK	1750	I	—	Ground	B	0.5	BK	1750	II	—

X417 Rear Bumper Harness to Rear Clearance Lamps Harness





Connector Part Information

- Harness Type: Rear Bumper
- OEM Connector: 12052641
- Service Connector: Service by Harness - See Part Catalog
- Description: 2-Way F 150 Metri-Pack Series (BK)

Connector Part Information

- Harness Type: Rear Clearance Lamps
- OEM Connector: 12162000
- Service Connector: Service by Harness - See Part Catalog
- Description: 2-Way M 150 Metri-Pack Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X417 Rear Bumper Harness to Rear Clearance Lamps Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
A	0.5	GY/BN	309	I	—	Right Park Lamp Control	A	0.5	GY/BN	309	II	—
B	—	—	—	—	—	Ground	B	0.5	BK	1750	II	—

X420 Tail Lamp - Right Harness to Chassis Harness (Heavy Duty)

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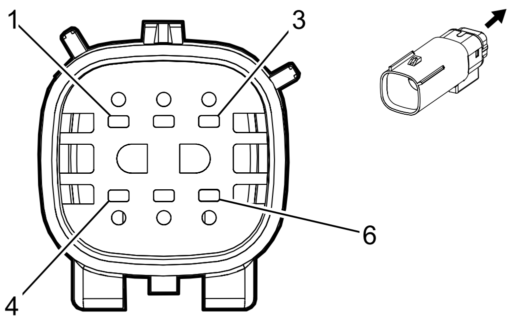

Connector Part Information

Harness Type: Tail Lamp - Right

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F

Connector Part Information

Harness Type: Chassis

OEM Connector: 33171739

Service Connector: 19333224

Description: 6-Way M 150 MX Series, Sealed (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X420 Tail Lamp - Right Harness to Chassis Harness (Heavy Duty)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	GY/BN	309	I	—	Right Park Lamp Control	1	0.75	GY/BN	309	II	—
4	0.75	L-GN/WH	24	I	—	Backup Lamp Control	4	0.75	L-GN/WH	24	II	—
5	0.75	BN/L-GN	19	I	—	Right Rear Stop/Turn Lamp Control	5	0.75	BN/L-GN	19	II	—
6	1.5	BK	2150	I	—	Ground	6	1.5	BK	2150	II	—

X420 Tail Lamp - Right Harness to Chassis Harness (Light Duty)

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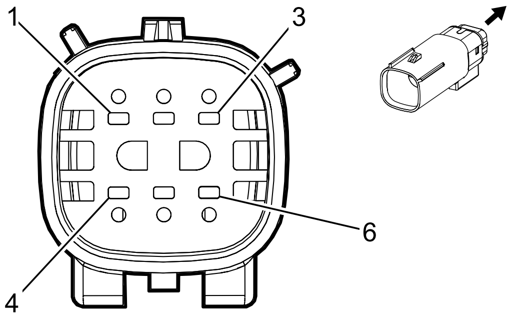


Connector Part Information

Harness Type: Tail Lamp - Right

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 6-Way F

Connector Part Information

Harness Type: Chassis

OEM Connector: 33162427

Service Connector: 19333223

Description: 6-Way M 150 MX Series, Sealed (GY)

Terminal Part Information

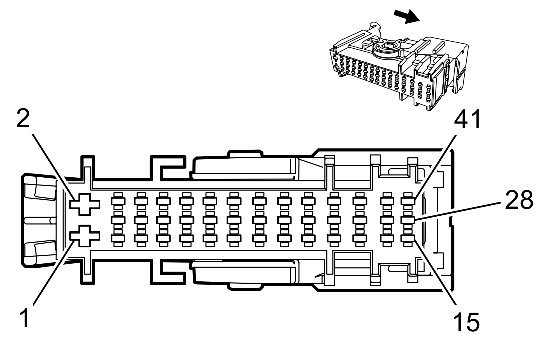
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

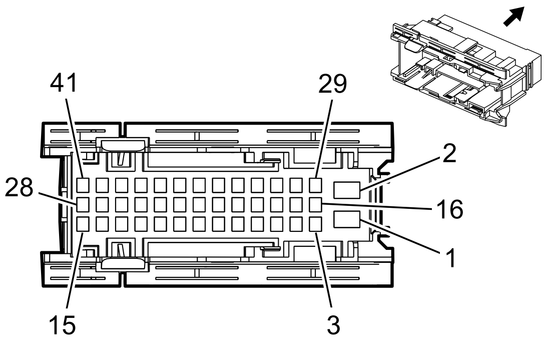
X420 Tail Lamp - Right Harness to Chassis Harness (Light Duty)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	GY/BN	309	I	—	Right Park Lamp Control	1	0.75	GY/BN	309	II	—
2	0.5	VT/YE	5357	I	—	Right Tail Lamp Outage Detection Signal	2	0.5	VT/YE	5357	II	—
4	0.75	L-GN/WH	24	I	—	Backup Lamp Control	4	0.75	L-GN/WH	24	II	—
5	0.75	BN/L-GN	19	I	—	Right Rear Stop/Turn Lamp Control	5	0.75	BN/L-GN	19	II	—

6	1.5	BK	2150	I	—	Ground	6	1.5	BK	2150	II	—

X500 Driver Door Harness to Body Harness





Connector Part Information

Harness Type: Driver Door

OEM Connector: 13600509

Service Connector: Service by Harness - See Part Catalog

Description: 41-Way F 4.8 TIMER/DSQ 1.5 Series

Connector Part Information

Harness Type: Body

OEM Connector: 13946876

Service Connector: 13587760

Description: 41-Way M 1.5, 2.8 Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required
III	13575556	J-35616-34 (YE)	J-38125-560	Not Available	Not Available	Not Available	Not Available
IV	13575593	J-35616-34 (YE)	J-38125-560	964265-2	24	E	2
V	13575706	J-35616-42 (RD)	J-38125-36	Not Available	Not Available	Not Available	Not Available
VI	13575775	J-35616-34 (YE)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VII	13575776	J-35616-34 (YE)	J-38125-560	964265-2	24	E	2
VIII	13575776	J-35616-34 (YE)	J-38125-560	964265-2	24	E	C
IX	13575857	J-35616-42 (RD)	J-38125-36	Not Available	Not Available	Not Available	Not Available

X500 Driver Door Harness to Body Harness

Driver Door Harness to Body Harness

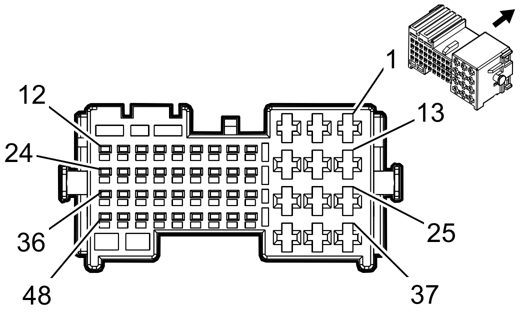
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/D-BU	1842	II	—	Battery Positive Voltage	1	2.5	RD/D-BU	1842	IX	—
2	3	BK	1150	II	—	Ground	2	4	BK	1150	V	—
3	0.5	GY/WH	5996	I	—	Driver Outside Rear View Mirror Puddle Lamp Control	3	0.5	GY/L-GN	5996	VII	—
4	0.5	WH	3398	I	—	Passenger Mirror Motor Common Control	4	0.5	WH	3398	VII	—
5	0.35	YE/BK	1690	I	—	Automatic Day/Night Mirror Signal	5	0.35	YE/WH	1690	VI	—
6	0.35	BK/YE	1691	I	—	Automatic Day/Night Mirror Low Reference	6	0.35	BK/YE	1691	VI	—
7	0.35 0.5	D-BU/L-GN WH/L-GN	614 3412	I	— —	Memory Seat Switch Set Signal Driver Mirror Motor Fold In Control	7	0.35 0.5	D-BU/L-GN WH/L-GN	614 3412	VI VII	— —
8	0.35 0.5	WH GY/WH	615 3411	I	— —	Memory Seat Switch Signal (1) Driver Mirror Motor Fold Out Control	8	0.35 0.5	WH GY/WH	615 3411	VI VII	— —
9	0.5	WH/VT	1430	I	—	Exterior Courtesy Lamp Control	9	0.5	WH/VT	1430	VII	—

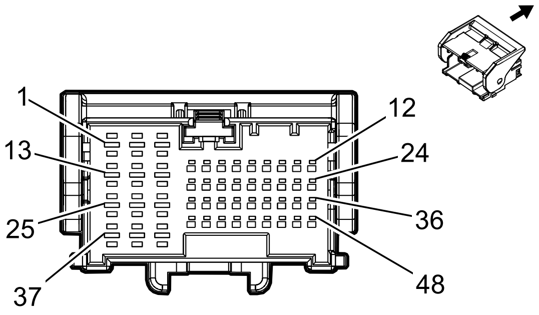
10	1	D-BU	201	I	—	Left Front Speaker Control (+) (1)	10	0.75 1	D-BU D-BU	201 201	VIII III	— —
11	0.5	VT/GY	709	I	—	Left Park Lamp Control	11	0.5	VT/GY	709	VII	—
12	0.35	GY	745	I	—	Left Front Door Ajar Switch Signal	12	0.35	GY	745	VI	—
13	0.35	WH/VT	3270	I	—	Driver Door Lock Motor Status Signal	13	0.35 0.35	WH/VT WH/VT	3270 3270	VI IV	— —
14	0.5	OG/L-GN	2132	I	—	Left Front Side Impact Sensing Module Signal	14	0.35	OG/L-GN	2132	VI	—
15	0.5	BK/OG	6628	I	—	Left Front Side Impact Sensing Module Low Reference	15	0.35	BK/OG	6628	VI	—
16	0.35	WH	6816	I	—	Indicator Dimming Control	16	0.5	WH	6816	VII	—
17	0.35	BN/WH	781	I	—	Driver Door Lock Switch Unlock Signal	17	0.35	BN/WH	781	VI	—
18	0.35	BN/YE	780	I	—	Driver Door Lock Switch Lock Signal	18	0.35	BN/YE	780	VI	—

19	0.75	BN/BK	294	I	—	Door Lock Actuator Unlock Control	19	0.75	BN/YE	294	VIII	—
20	0.75	GY	5911	I	—	Door Lock Actuator Lock Control 2	20	0.75	GY	5911	VIII	—
21	0.35	BK/D-BU	5978	I	—	Memory Switch Low Reference	21	0.35	BK/D-BU	5978	VI	—
22	—	—	—	—	—	Not Occupied	22	—	—	—	—	—
23	1	BN/D-BU	118	I	—	Left Front Speaker Signal (-) (1)	23	0.75 1	BN/D-BU BN/D-BU	118 118	VIII III	— —
24 - 25	—	—	—	—	—	Not Occupied	24 - 25	—	—	—	—	—
26	0.35	D-BU/VT	1124	I	—	Door Lock Key Switch Unlock Signal	26	0.35 0.35	D-BU/VT D-BU/VT	1124 1124	IV VI	— —
27 - 28	—	—	—	—	—	Not Occupied	27 - 28	—	—	—	—	—
29	0.35	YE	6817	I	—	LED Backlight Dimming Control	29	0.35	YE	6817	VI	—
30	0.35	WH/YE	7557	I	—	LED Ambient Lighting Control 1	30	0.35	WH/YE	7557	VI	—
31	0.5	BN/OG	2267	I	—	Mirror Heating Element Control	31	0.5	BN/YE	2267	VII	—

32	0.35	GY	5697	I	—	Child Lockout Indicator Control	32	0.35	GY	5697	VI	—
33	0.5	L-GN/YE	6134	I	—	Local Interconnect Network Serial Data Bus 3	33	0.5	L-GN/YE	6134	VII	—
34	0.5	L-GN/WH	7530	I	—	Local Interconnect Network Serial Data Bus 8	34	0.5	L-GN/WH	7530	VII	—
35	0.35	BN/RD	3265	I	—	Child Security Lock Switch Signal	35	0.35	YE/BN	3265	VI	—
36	0.5	L-GN/BK	3396	I	—	Passenger Mirror Motor Right (+) Left (-) Control	36	0.5	L-GN/BK	3396	VII	—
37	—	—	—	—	—	Not Occupied	37	—	—	—	—	—
38	0.5	YE/VT	3397	I	—	Passenger Mirror Motor Up (+) Down (-) Control	38	0.5	YE/VT	3397	VII	—
39	—	—	—	—	—	Not Occupied	39	—	—	—	—	—
40	0.5	RD/VT	1940	I	—	Battery Positive Voltage	40	0.5	RD/VT	1940	VII	—
41	0.5	D-BU/WH	1314	I	—	Left Front Turn Signal Lamp Control	41	0.75	D-BU/WH	1314	VIII	—

X505 Driver Door Harness to Driver Door Trim Harness





Connector Part Information

Harness Type: Driver Door

OEM Connector: 13889713

Service Connector: Service by Harness - See Part Catalog

Description: 48-Way F 1.2 MCON, 2.8 MCP Series

Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: 15512031

Service Connector: Service by Harness - See Part Catalog

Description: 48-Way M 1.2 MCON, 2.8 MCP Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required
III	Not Required	J-35616-13 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required
IV	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

X505 Driver Door Harness to Driver Door Trim Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.35	YE	6817	II	—	LED Backlight Dimming Control	1	0.35	YE	6817	IV	—

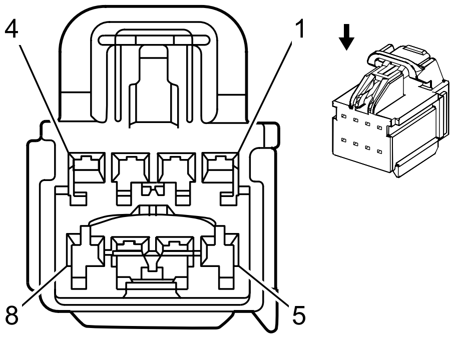
2	0.35	WH/YE	7557	II	—	LED Ambient Lighting Control 1	2	0.35	WH/YE	7557	IV	—
3	0.35	WH	6816	II	—	Indicator Dimming Control	3	0.35	WH	6816	IV	—
4	—	—	—	—	—	Not Occupied	4	—	—	—	—	—
5	0.5	BN/BK	3389	I	—	Driver Mirror Motor Right (+) Left (-) Control	5	0.75	BN/BK	3389	III	—
6	0.5	VT/D-BU	3390	I	—	Driver Mirror Motor Up (+) Down (-) Control	6	0.75	VT/D-BU	3390	III	—
7	0.5	YE/BN	3391	I	—	Driver Mirror Motor Common Control	7	0.75	YE/BN	3391	III	—
8	0.5	GY/WH	3411	I	—	Driver Mirror Motor Fold Out Control	8	0.75	GY/WH	3411	III	—
9	0.5	WH/L-GN	3412	I	—	Driver Mirror Motor Fold In Control	9	0.75	WH/L-GN	3412	III	—
10	0.35	GY/BN	3394	I	—	Driver Mirror Position Sensor Up (+) Down (-) Signal	10	0.35	GY/BN	3394	III	—
11	0.5	BN/BK	3389	I	—	Driver Mirror Motor Right (+) Left (-) Control	11	0.75	BN/BK	3389	III	—
12	0.35	VT/RD	3392	I	—	Driver Mirror Position Sensor 5 Volt Reference	12	0.35	VT/RD	3392	III	—
13	0.35	WH/YE	3395	II	—	Driver Mirror Position Sensor Left (-) Right (+) Signal	13	0.35	WH/YE	3395	IV	—

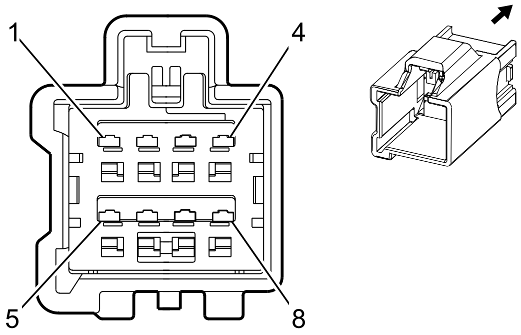
14	0.35	BK/BN	3393	II	—	Driver Mirror Position Sensor Low Reference	14	0.35	BK/BN	3393	IV	—
15 - 16	—	—	—	—	—	Not Occupied	15 - 16	—	—	—	—	—
17	0.5	BK	1150	I	—	Ground	17	0.35	BK	1150	III	—
18 - 21	—	—	—	—	—	Not Occupied	18 - 21	—	—	—	—	—
22	0.5	RD/VT	1940	I	—	Battery Positive Voltage	22	0.5	RD/VT	1940	III	—
23	0.75	BK	1150	I	—	Ground	23	0.75	BK	1150	III	—
24	—	—	—	—	—	Not Occupied	24	—	—	—	—	—
25	0.5	GY/WH	3411	II	—	Driver Mirror Motor Fold Out Control	25	0.75	GY/WH	3411	IV	—
26	0.5	WH/L-GN	3412	II	—	Driver Mirror Motor Fold In Control	26	0.75	WH/L-GN	3412	IV	—
27 - 28	—	—	—	—	—	Not Occupied	27 - 28	—	—	—	—	—
29	0.35	GY	1136	I	—	Power Window Master Switch Left Front Down Signal	29	0.35	GY	1136	III	—
30	0.35	L-GN/WH	1300	I	—	Power Window Master Switch Left Front Up Signal	30	0.35	L-GN/WH	1300	III	—
31	0.35	L-GN/VT	7628	I	—	Power Window Motor Left Front Express Control	31	0.35	L-GN/VT	7628	III	—
		BK/D-BU	5978	I	—	Memory Switch Low			BK/D-BU	5978	III	—

32	0.35					Reference	32	0.35			
33	0.35	D-BU/L-GN	614	I	—	Memory Seat Switch Set Signal	33	0.35	D-BU/L-GN	614	III	—
34	0.35	WH	615	I	—	Memory Seat Switch Signal (1)	34	0.35	WH	615	III	—
35	—	—	—	—	—	Not Occupied	35	—	—	—	—	—
36	0.5	L-GN/YE	6134	I	—	Local Interconnect Network Serial Data Bus 3	36	0.5	L-GN/YE	6134	III	—
37	0.5	L-GN/WH	7530	II	—	Local Interconnect Network Serial Data Bus 8	37	0.5	L-GN/WH	7530	IV	—
38 - 39	—	—	—	—	—	Not Occupied	38 - 39	—	—	—	—	—
40	0.35	BN/RD	3265	I	—	Child Security Lock Switch Signal	40	0.35	YE/BN	3265	III	—
41	0.35	WH/VT	3270	I	—	Driver Door Lock Motor Status Signal	41	0.35	WH/VT	3270	III	—
42	0.5	L-GN/BK	3396	I	—	Passenger Mirror Motor Right (+) Left (-) Control	42	0.75	L-GN/BK	3396	III	—
43	0.5	YE/VT	3397	I	—	Passenger Mirror Motor Up (+) Down (-) Control	43	0.75	YE/VT	3397	III	—
44	0.5	WH	3398	I	—	Passenger Mirror Motor Common Control	44	0.75	WH	3398	III	—
45	0.35	GY	5697	I	—	Child Lockout Indicator Control	45	0.35	GY	5697	III	—

46	0.35	D-BU/VT	1124	I	—	Door Lock Key Switch Unlock Signal	46	0.35	D-BU/VT	1124	III	—
47	0.35	BN/WH	781	I	—	Driver Door Lock Switch Unlock Signal	47	0.35	BN/WH	781	III	—
48	0.35	BN/YE	780	I	—	Driver Door Lock Switch Lock Signal	48	0.35	BN/YE	780	III	—

X506 Driver Door Trim Harness to Driver Door Harness





Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: 10846802

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 1.5 Kaizen YESC Series (L-GY)

Connector Part Information

Harness Type: Driver Door

OEM Connector: 10847035

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way M 1.5 Kaizen YESC Series (L-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X506 Driver Door Trim Harness to Driver Door Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 3	—	—	—	—	—	Not Occupied	1 - 3	—	—	—	—	—
4	0.35	BN/YE	780	I	—	Driver Door Lock Switch Lock Signal	4	0.35	BN/YE	780	II	—
5	0.35	BN/WH	781	I	—	Driver Door Lock Switch	5	0.35	BN/WH	781	II	—

5	0.35					Unlock Signal	5	0.35				
6	0.35	YE	6817	I	—	LED Backlight Dimming Control	6	0.35	YE	6817	II	—
7	0.35	BK	1150	I	—	Ground	7	0.5	BK	1150	II	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—

X510 Driver Door Trim Harness to Driver Door Harness

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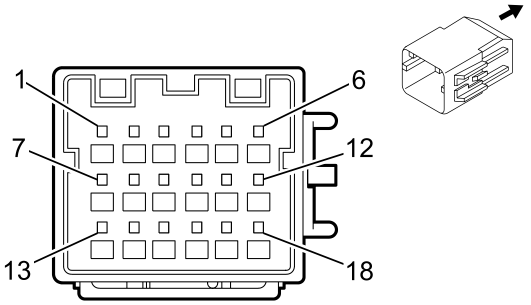


Connector Part Information

Harness Type: Driver Door Trim

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 18-Way F

Connector Part Information

Harness Type: Driver Door

OEM Connector: 13888973

Service Connector: Service by Harness - See Part Catalog

Description: 18-Way M 0.64 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-65B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

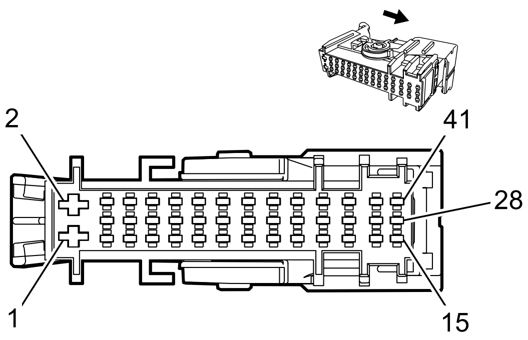
X510 Driver Door Trim Harness to Driver Door Harness

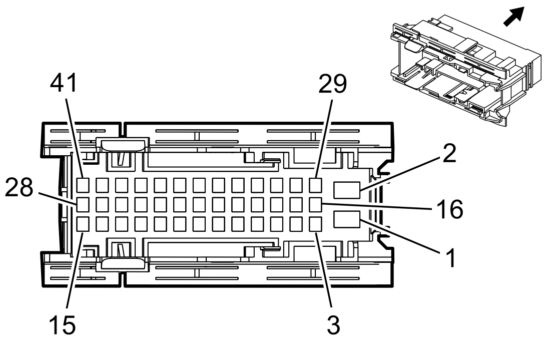
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5 0.5	GY/WH VT/GY	5996 709	I	— —	Driver Outside Rear View Mirror Puddle Lamp Control Left Park Lamp Control	1	0.5 0.5	GY/WH VT/GY	5996 709	II	— —
2	0.35 0.5	YE/BK WH/VT	1690 1430	I	— —	Automatic Day/Night Mirror Signal Exterior Courtesy Lamp Control	2	0.35 0.5	YE/BK WH/VT	1690 1430	II	— —

3	0.35	BK/BN	3393	I	—	Driver Mirror Position Sensor Low Reference	3	0.35	BK/BN	3393	II	—
4	0.5	GY/WH	3411	I	—	Driver Mirror Motor Fold Out Control	4	0.5	GY/WH	3411	II	—
5	0.5	BK	1150	I	—	Ground	5	0.5	BK	1150	II	—
7	0.35	WH/YE	3395	I	—	Driver Mirror Position Sensor Left (-) Right (+) Signal	7	0.35	WH/YE	3395	II	—
8	0.5	BN/OG	2267	I	—	Mirror Heating Element Control	8	0.5	BN/OG	2267	II	—
9	0.5	VT/D-BU	3390	I	—	Driver Mirror Motor Up (+) Down (-) Control	9	0.5	VT/D-BU	3390	II	—
10	0.5	BN/BK	3389	I	—	Driver Mirror Motor Right (+) Left (-) Control	10	0.5	BN/BK	3389	II	—
11	0.5	BK	1150	I	—	Ground	11	0.5	BK	1150	II	—
12	0.5	YE/BN	3391	I	—	Driver Mirror Motor Common Control	12	0.5	YE/BN	3391	II	—
13	0.5	D-BU/WH	1314	I	—	Left Front Turn Signal Lamp Control	13	0.5	D-BU/WH	1314	II	—
14	0.35	GY/BN	3394	I	—	Driver Mirror Position Sensor Up (+) Down (-) Signal	14	0.35	GY/BN	3394	II	—

16	0.35	BK/YE	1691	I	—	Automatic Day/Night Mirror Low Reference	16	0.35	BK/YE	1691	II	—
17	0.35	VT/RD	3392	I	—	Driver Mirror Position Sensor 5 Volt Reference	17	0.35	VT/RD	3392	II	—
18	0.5	WH/L-GN	3412	I	—	Driver Mirror Motor Fold In Control	18	0.5	WH/L-GN	3412	II	—

X600 Passenger Door Harness to Body Harness





Connector Part Information

Harness Type: Passenger Door

OEM Connector: 13600509

Service Connector: Service by Harness - See Part Catalog

Description: 41-Way F 4.8 TIMER/DSQ 1.5 Series

Connector Part Information

Harness Type: Body

OEM Connector: 13946876

Service Connector: 13587760

Description: 41-Way M 1.5, 2.8 Series (GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required
III	13575556	J-35616-34 (YE)	J-38125-560	Not Available	Not Available	Not Available	Not Available
IV	13575593	J-35616-34 (YE)	J-38125-560	964265-2	24	C	A
V	13575775	J-35616-34 (YE)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VI	13575776	J-35616-34 (YE)	J-38125-560	964265-2	24	E	2
VII	13575776	J-35616-34 (YE)	J-38125-560	964265-2	24	E	C
VIII	13575857	J-35616-42 (RD)	J-38125-36	Not Available	Not Available	Not Available	Not Available
IX	13582220	J-35616-14 (GN)	J-38125-560	Not Available	Not Available	Not Available	Not Available

X600 Passenger Door Harness to Body Harness

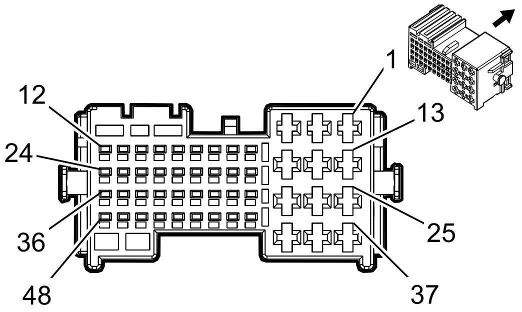
Passenger Door Harness to Body Harness

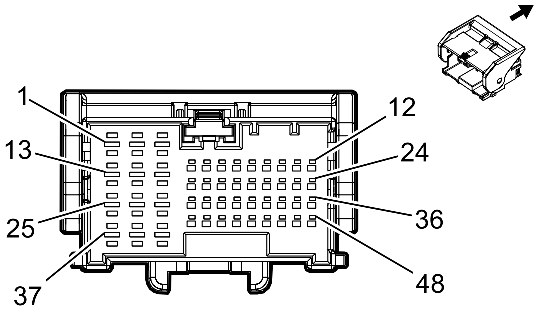
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	2.5	RD/WH	1340	II	—	Battery Positive Voltage	1	2.5	RD/WH	1340	VIII	—
2	2.5	BK	1250	II	—	Ground	2	2.5 2.5	BK BK	1250 1250	VIII IX	— —
3	0.5	GY/L-GN	5996	I	—	Driver Outside Rear View Mirror Puddle Lamp Control	3	0.5	GY/L-GN	5996	VI	—
4	0.5	WH	3398	I	—	Passenger Mirror Motor Common Control	4	0.5	WH	3398	VI	—
5 - 6	—	—	—	—	—	Not Occupied	5 - 6	—	—	—	—	—
7	0.5	WH/L-GN	3412	I	—	Driver Mirror Motor Fold In Control	7	0.5	WH/L-GN	3412	VI	—
8	0.5	GY/WH	3411	I	—	Driver Mirror Motor Fold Out Control	8	0.5	GY/WH	3411	VI	—
9	0.5	WH/VT	1430	I	—	Exterior Courtesy Lamp Control	9	0.5	WH/VT	1430	VI	—
10	1	YE/BK	117	I	—	Right Front Speaker Signal (-) (1)	10	0.75 1	YE/BK YE/BK	117 117	VII IV	— —
		GY/BN	309	I	—	Right Park Lamp			GY/BN	309	VI	—

11	0.5	GY/BN	309	I	—	Right Park Lamp Control	11	0.5	GY/BN	309	VI	—
12	0.35	GY	746	I	—	Right Front Door Ajar Switch Signal	12	0.35	GY	746	V	—
13	—	—	—	—	—	Not Occupied	13	—	—	—	—	—
14	0.5	OG/L-GN	2134	I	—	Right Front Side Impact Sensing Module Signal	14	0.35	BN/OG	2134	V	—
15	0.5	BK/OG	6629	I	—	Right Front Side Impact Sensing Module Low Reference	15	0.35	BK/OG	6629	V	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—
17	0.35	BN/VT	245	I	—	Passenger Door Lock Switch Unlock Control	17	0.35	BN/VT	245	V	—
18	0.35	YE/BK	244	I	—	Passenger Door Lock Switch Lock Control	18	0.35	YE/VT	244	V	—
19	0.75	BN/YE	294	I	—	Door Lock Actuator Unlock Control	19	0.75	BN/YE	294	VII	—
20	0.75	GY	295	I	—	Door Lock Actuator Lock Control	20	0.75	GY	295	VII	—
21	0.5	BK/D-BU	61	I	—	Outside Ambient Temperature Sensor Low Reference	21	0.35	BK/D-BU	61	V	—
22	—	—	—	—	—	Not Occupied	22	—	—	—	—	—
23	1	YE	200	I	—	Right Front Speaker Control (+) (1)	23	0.75	YE	200	VII	—
									YE	200	III	—

								1				
24	0.5	D-BU/GY	636	I	—	Outside Ambient Air Temperature Sensor Signal	24	0.35	D-BU/GY	636	V	—
25 - 28	—	—	—	—	—	Not Occupied	25 - 28	—	—	—	—	—
29	—	—	—	—	—	LED Backlight Dimming Control	29	0.5	YE	6817	VI	—
30	0.35	WH/YE	7557	I	—	LED Ambient Lighting Control 1	30	0.35	WH/YE	7557	V	—
31	0.5	BN/OG	2267	I	—	Mirror Heating Element Control	31	0.5	BN/YE	2267	VI	—
32	—	—	—	—	—	Not Occupied	32	—	—	—	—	—
33	0.5	L-GN/YE	6134	I	—	Local Interconnect Network Serial Data Bus 3	33	0.5	L-GN/YE	6134	VI	—
34	0.5	L-GN/WH	7530	I	—	Local Interconnect Network Serial Data Bus 8	34	0.5	L-GN/WH	7530	VI	—
35	—	—	—	—	—	Not Occupied	35	—	—	—	—	—
36	0.5	L-GN/BK	3396	I	—	Passenger Mirror Motor Right (+) Left (-) Control	36	0.5	L-GN/BK	3396	VI	—
37	—	—	—	—	—	Not Occupied	37	—	—	—	—	—
38	0.5	YE/VT	3397	I	—	Passenger Mirror Motor Up (+) Down (-) Control	38	0.5	YE/VT	3397	VI	—
39 - 40	—	—	—	—	—	Not Occupied	39 - 40	—	—	—	—	—
41	0.5	L-GN/VT	1315	I	—	Right Front Turn Signal Lamp Control	41	0.75	L-GN/VT	1315	VII	—

X605 Passenger Door Harness to Passenger Door Trim Harness





Connector Part Information

Harness Type: Passenger Door

OEM Connector: 13889713

Service Connector: Service by Harness - See Part Catalog

Description: 48-Way F 1.2 MCON, 2.8 MCP Series

Connector Part Information

Harness Type: Passenger Door Trim

OEM Connector: 15512031

Service Connector: Service by Harness - See Part Catalog

Description: 48-Way M 1.2 MCON, 2.8 MCP Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-16 (LT GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-35 (VT)	Not Required	Not Required	Not Required	Not Required	Not Required
III	Not Required	J-35616-13 (BU)	Not Required	Not Required	Not Required	Not Required	Not Required
IV	Not Required	J-35616-5 (PU)	Not Required	Not Required	Not Required	Not Required	Not Required

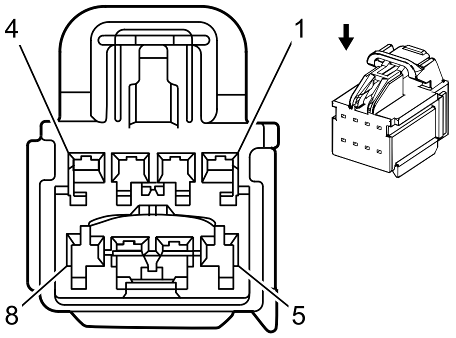
X605 Passenger Door Harness to Passenger Door Trim Harness

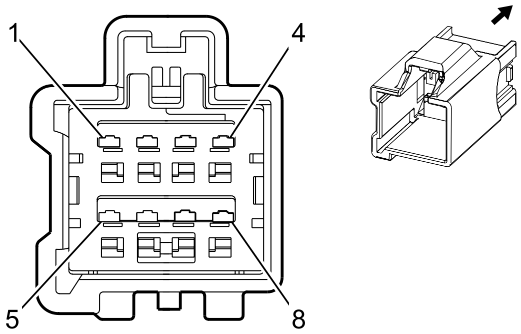
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	—	—	—	—	—	Not Occupied	1	—	—	—	—	—
2	0.35	WH/YE	7557	II	—	LED Ambient Lighting Control 1	2	0.35	WH/YE	7557	IV	—

3 - 5	—	—	—	—	—	Not Occupied	3 - 5	—	—	—	—	—
6	0.5	YE/VT	3397	I	—	Passenger Mirror Motor Up (+) Down (-) Control	6	0.75	YE/VT	3397	III	—
7	0.5	WH	3398	I	—	Passenger Mirror Motor Common Control	7	0.75	WH	3398	III	—
8	0.5	YE/GY	3413	I	—	Passenger Mirror Motor Fold Out Control	8	0.75	YE/WH	3413	III	—
9	0.5	D-BU/GY	3414	I	—	Passenger Mirror Motor Fold In Control	9	0.75	D-BU/GY	3414	III	—
10	0.35	D-BU/YE	3401	I	—	Passenger Mirror Position Sensor Up (+) Down (-) Signal	10	0.35	D-BU/YE	3401	III	—
11	0.5	L-GN/BK	3396	I	—	Passenger Mirror Motor Right (+) Left (-) Control	11	0.75	L-GN/BK	3396	III	—
12	0.35	YE/RD	3399	I	—	Passenger Mirror Position Sensor 5 Volt Reference	12	0.35	YE/RD	3399	III	—
13	0.35	VT/WH	3403	II	—	Passenger Mirror Position Sensor Left (-) Right (+) Signal	13	0.35	VT/WH	3403	IV	—
14	0.35	BK/L-GN	3400	II	—	Passenger Mirror Position Sensor Low Reference	14	0.35	BK/L-GN	3400	IV	—
15	2.5	BK	1250	II	—	Ground	15	2.5	BK	1250	IV	—
16	—	—	—	—	—	Not Occupied	16	—	—	—	—	—

17	0.5	BK	1250	I	—	Ground	17	0.35	BK	1250	III	—
18 - 24	—	—	—	—	—	Not Occupied	18 - 24	—	—	—	—	—
25	2.5	L-GN/GY	3387	II	—	Power Window Motor Passenger Up Control	25	2.5	L-GN/GY	3387	IV	—
26	2.5	YE/D-BU	3388	II	—	Power Window Motor Passenger Down Control	26	2.5	YE/D-BU	3388	IV	—
27	2.5	RD/WH	1340	II	—	Battery Positive Voltage	27	2.5	RD/WH	1340	IV	—
28 - 35	—	—	—	—	—	Not Occupied	28 - 35	—	—	—	—	—
36	0.5	L-GN/YE	6134	I	—	Local Interconnect Network Serial Data Bus 3	36	0.5	L-GN/YE	6134	III	—
37	0.5	L-GN/WH	7530	II	—	Local Interconnect Network Serial Data Bus 8	37	0.5	L-GN/WH	7530	IV	—
38 - 45	—	—	—	—	—	Not Occupied	38 - 45	—	—	—	—	—
46	0.35	GY	746	I	—	Right Front Door Ajar Switch Signal	46	0.35	GY	746	III	—
47	0.35	BN/VT	245	I	—	Passenger Door Lock Switch Unlock Control	47	0.35	BN/VT	245	III	—
48	0.35	YE/BK	244	I	—	Passenger Door Lock Switch Lock Control	48	0.35	YE/VT	244	III	—

X606 Passenger Door Trim Harness to Passenger Door Harness





Connector Part Information

Harness Type: Passenger Door Trim

OEM Connector: 10846802

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 1.5 Kaizen YESC Series (L-GY)

Connector Part Information

Harness Type: Passenger Door

OEM Connector: 10847035

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way M 1.5 Kaizen YESC Series (L-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X606 Passenger Door Trim Harness to Passenger Door Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1 - 3	—	—	—	—	—	Not Occupied	1 - 3	—	—	—	—	—
4	0.35	YE/VT	244	I	—	Passenger Door Lock Switch Lock Control	4	0.35	YE/BK	244	II	—
5	0.35	BN/VT	245	I	—	Passenger Door Lock	5	0.35	BN/VT	245	II	—

5	0.35					Switch Unlock Control	5	0.35				
6	0.35	YE	6817	I	—	LED Backlight Dimming Control	6	0.35	YE	6817	II	—
7	0.35	BK	1250	I	—	Ground	7	0.5	BK	1250	II	—
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—

X610 Passenger Door Trim Harness to Passenger Door Harness

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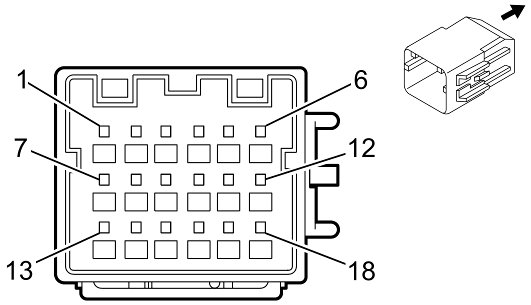


Connector Part Information

Harness Type: Passenger Door Trim

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 18-Way F

Connector Part Information

Harness Type: Passenger Door

OEM Connector: 13888973

Service Connector: Service by Harness - See Part Catalog

Description: 18-Way M 0.64 Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-65B (LT BU)	Not Required	Not Required	Not Required	Not Required	Not Required

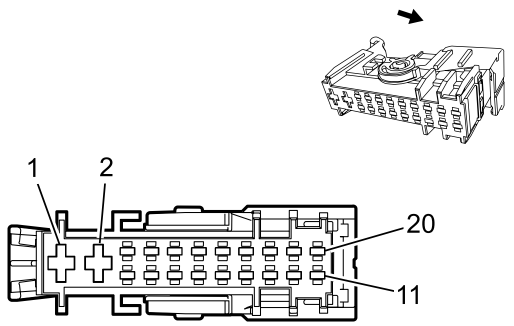
X610 Passenger Door Trim Harness to Passenger Door Harness

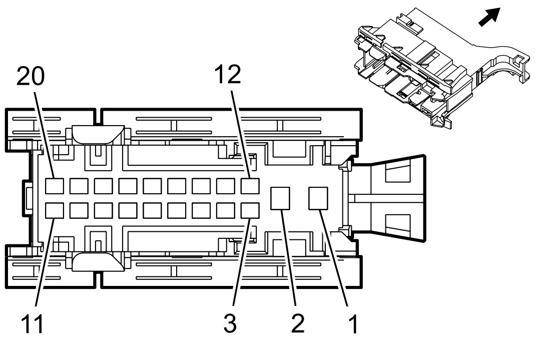
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5 0.5	GY/BN GY/L-GN	309 5996	I	— —	Right Park Lamp Control Driver Outside Rear View Mirror Puddle Lamp Control	1	0.5 0.5	GY/BN GY/L-GN	309 5996	II	— —
2	0.5	WH/VT	1430	I	—	Exterior Courtesy Lamp Control	2	0.5	WH/VT	1430	II	—
3	0.35	BK/L-GN	3400	I	—	Passenger Mirror Position Sensor Low Reference	3	0.35	BK/L-GN	3400	II	—

4	0.5 0.5	GY/WH YE/GY	3411 3413	I	— —	Driver Mirror Motor Fold Out Control Passenger Mirror Motor Fold Out Control	4	0.5 0.5	GY/WH YE/GY	3411 3413	II	— —
5	0.5	BK	1250	I	—	Ground	5	0.5	BK	1250	II	—
7	0.35	VT/WH	3403	I	—	Passenger Mirror Position Sensor Left (-) Right (+) Signal	7	0.35	VT/WH	3403	II	—
8	0.5	BN/OG	2267	I	—	Mirror Heating Element Control	8	0.5	BN/OG	2267	II	—
9	0.5	YE/VT	3397	I	—	Passenger Mirror Motor Up (+) Down (-) Control	9	0.5	YE/VT	3397	II	—
10	0.5	L-GN/BK	3396	I	—	Passenger Mirror Motor Right (+) Left (-) Control	10	0.5	L-GN/BK	3396	II	—
11	0.5	BK	1250	I	—	Ground	11	0.5	BK	1250	II	—
12	0.5	WH	3398	I	—	Passenger Mirror Motor Common Control	12	0.5	WH	3398	II	—
13	0.5	L-GN/VT	1315	I	—	Right Front Turn Signal Lamp Control	13	0.5	L-GN/VT	1315	II	—
14	0.35	D-BU/YE	3401	I	—	Passenger Mirror Position Sensor Up (+) Down (-) Signal	14	0.35	D-BU/YE	3401	II	—

15	0.5	D-BU/GY	636	I	—	Outside Ambient Air Temperature Sensor Signal	15	0.5	D-BU/GY	636	II	—
16	0.5	BK/D-BU	61	I	—	Outside Ambient Temperature Sensor Low Reference	16	0.5	BK/D-BU	61	II	—
17	0.35	YE/RD	3399	I	—	Passenger Mirror Position Sensor 5 Volt Reference	17	0.35	YE/RD	3399	II	—
18	0.5 0.5	WH/L-GN D-BU/GY	3412 3414	I	— —	Driver Mirror Motor Fold In Control Passenger Mirror Motor Fold In Control	18	0.5 0.5	WH/L-GN D-BU/GY	3412 3414	II	— —

X700 Left Rear Door Harness to Body Harness





Connector Part Information

- Harness Type: Left Rear Door
- OEM Connector: 13600493
- Service Connector: Service by Harness - See Part Catalog
- Description: 20-Way F 1.5, 4.8 Timer DSQ Series (GY)

Connector Part Information

- Harness Type: Body
- OEM Connector: 15539528
- Service Connector: 19329469
- Description: 20-Way M 1.5, 5.8 TTS Series (D-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required
III	13575556	J-35616-34 (YE)	J-38125-560	Not Available	Not Available	Not Available	Not Available
IV	13575706	J-35616-42 (RD)	J-38125-36	Not Available	Not Available	Not Available	Not Available
V	13575775	J-35616-34 (YE)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VI	13575776	J-35616-34 (YE)	J-38125-560	964265-2	24	E	2
VII	13575776	J-35616-34 (YE)	J-38125-560	964265-2	24	E	C
VIII	13575857	J-35616-42 (RD)	J-38125-36	Not Available	Not Available	Not Available	Not Available

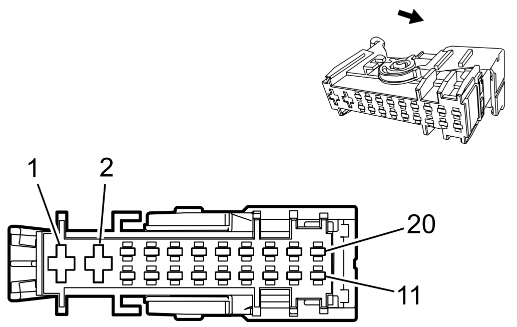
X700 Left Rear Door Harness to Body Harness

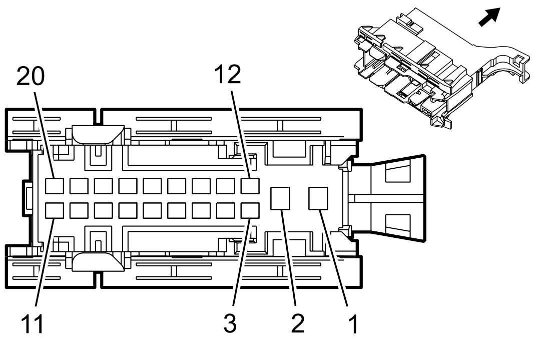
Pin	Size	Color	Circuit	Terminal Type	Option	Function	Pin	Size	Color	Circuit	Terminal Type	Option

				ID							ID	
1	2.5	RD/D-BU	1842	II	—	Battery Positive Voltage	1	2.5	RD/D-BU	1842	VIII	—
2	3	BK	1150	II	—	Ground	2	4	BK	1150	IV	—
3 - 6	—	—	—	—	—	Not Occupied	3 - 6	—	—	—	—	—
7	1	L-GN	199	I	—	Left Rear Speaker Control (+)	7	0.5 1	L-GN L-GN	199 199	VI III	— —
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—
9	0.75	WH/D-BU	3266	I	—	Child Security Lock Motor Lock Control	9	0.75	WH/D-BU	3266	VII	—
10	0.75	BN/YE	294	I	—	Door Lock Actuator Unlock Control	10	0.75	BN/YE	294	VII	—
11	0.75	GY	295	I	—	Door Lock Actuator Lock Control	11	0.75	GY	295	VII	—
12 - 15	—	—	—	—	—	Not Occupied	12 - 15	—	—	—	—	—
16	1	L-GN/BK	116	I	—	Left Rear Speaker Signal (-)	16	0.5 1	L-GN/BK L-GN/BK	116 116	VI III	— —
17	0.5	OG/D-BU	6620	I	—	Left Middle Side Impact Sensing Module Signal	17	0.35	OG/D-BU	6620	V	—

18	0.5	BK/OG	6621	I	—	Left Middle Side Impact Sensing Module Low Reference	18	0.35	BK/OG	6621	V	—
19	0.35	BN/WH	3269	I	—	Child Security Lock Motor Status Signal Left Rear	19	0.35	BN/WH	3269	V	—
20	0.5	L-GN/GY	6135	I	—	Local Interconnect Network Serial Data Bus 4	20	0.5	L-GN/GY	6135	VI	—

X800 Right Rear Door Harness to Body Harness





Connector Part Information

Harness Type: Right Rear Door

OEM Connector: 13600493

Service Connector: Service by Harness - See Part Catalog

Description: 20-Way F 1.5, 4.8 Timer DSQ Series (GY)

Connector Part Information

Harness Type: Body

OEM Connector: 15539528

Service Connector: 19329469

Description: 20-Way M 1.5, 5.8 TTS Series (D-GY)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-14 (GN)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-42 (RD)	Not Required	Not Required	Not Required	Not Required	Not Required
III	13575556	J-35616-34 (YE)	J-38125-560	Not Available	Not Available	Not Available	Not Available
IV	13575775	J-35616-34 (YE)	J-38125-560	Not Available	Not Available	Not Available	Not Available
V	13575776	J-35616-34 (YE)	J-38125-560	964265-2	24	E	2
VI	13575776	J-35616-34 (YE)	J-38125-560	964265-2	24	E	C
VII	13575857	J-35616-42 (RD)	J-38125-36	Not Available	Not Available	Not Available	Not Available
VIII	13582220	J-35616-14 (GN)	J-38125-560	Not Available	Not Available	Not Available	Not Available

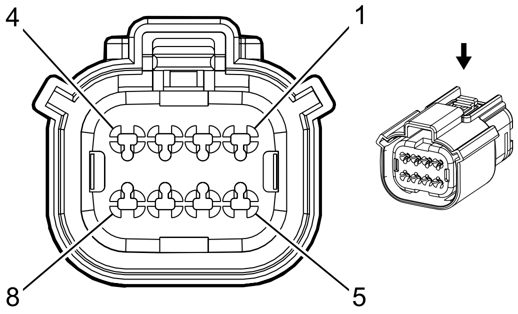
X800 Right Rear Door Harness to Body Harness

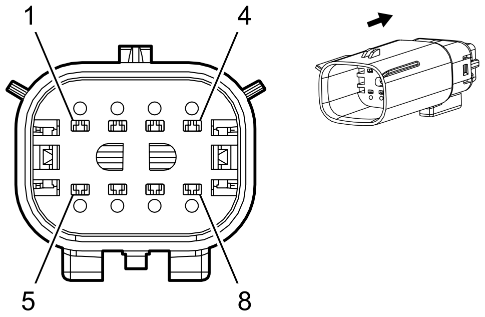
Pin	Size	Color	Circuit	Terminal Type	Option	Function	Pin	Size	Color	Circuit	Terminal Type	Option

				ID							ID	
1	2.5	RD/WH	1340	II	—	Battery Positive Voltage	1	2.5	RD/WH	1340	VII	—
2	2.5	BK	1250	II	—	Ground	2	2.5	BK	1250	VIII	—
3 - 6	—	—	—	—	—	Not Occupied	3 - 6	—	—	—	—	—
7	1	WH	46	I	—	Right Rear Speaker Control (+)	7	0.5 1	WH WH	46 46	V III	— —
8	—	—	—	—	—	Not Occupied	8	—	—	—	—	—
9	0.75	WH/D-BU	3266	I	—	Child Security Lock Motor Lock Control	9	0.75	WH/D-BU	3266	VI	—
10	0.75	BN/YE	294	I	—	Door Lock Actuator Unlock Control	10	0.75	BN/YE	294	VI	—
11	0.75	GY	295	I	—	Door Lock Actuator Lock Control	11	0.75	GY	295	VI	—
12 - 15	—	—	—	—	—	Not Occupied	12 - 15	—	—	—	—	—
16	1	D-BU/BK	115	I	—	Right Rear Speaker Signal (-)	16	0.5 1	D-BU/BK D-BU/BK	115 115	V III	— —
17	0.5	OG/VT	6624	I	—	Right Middle Side Impact Sensing Module Signal	17	0.35	OG/VT	6624	IV	—

18	0.5	BK/OG	6625	I	—	Right Middle Side Impact Sensing Module Low Reference	18	0.35	BK/OG	6625	IV	—
19	0.35	GY/BK	3268	I	—	Child Security Lock Motor Status Signal Right Rear	19	0.35	GY/BK	3268	IV	—
20	0.5	L-GN/GY	6135	I	—	Local Interconnect Network Serial Data Bus 4	20	0.5	L-GN/GY	6135	V	—

X900 Tailgate Harness to Chassis Harness





Connector Part Information

Harness Type: Tailgate

OEM Connector: 33160350

Service Connector: Service by Harness - See Part Catalog

Description: 8-Way F 150 MX Series, Sealed (BK)

Connector Part Information

Harness Type: Chassis

OEM Connector: 15456955

Service Connector: 19300474

Description: 8-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	J-35616-2A (GY)	Not Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-3 (GY)	Not Required	Not Required	Not Required	Not Required	Not Required

X900 Tailgate Harness to Chassis Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	GY	295	I	—	Door Lock Actuator Lock Control	1	0.75	GY	295	II	—
2	—	—	—	—	—	Backup Lamp Control	2	0.5	L-GN	24	II	—

3	—	—	—	—	—	Camera Signal 2 +	3	0.5	GY/YE	6972	II	—
4	—	—	—	—	—	Run/Crank Ignition 1 Voltage	4	0.5	VT/L-GN	1739	II	—
5	0.75	BN/YE	294	I	—	Door Lock Actuator Unlock Control	5	0.75	BN/YE	294	II	—
6	—	—	—	—	—	Camera Low Reference	6	0.5	BK	6974	II	—
7	—	—	—	—	—	Ground	7	0.5	BK	2550	II	—
8	—	—	—	—	—	Camera Signal 2	8	0.5	WH/D-BU	6973	II	—

X901 Rear Object Alarm Sensor Harness to Chassis Harness

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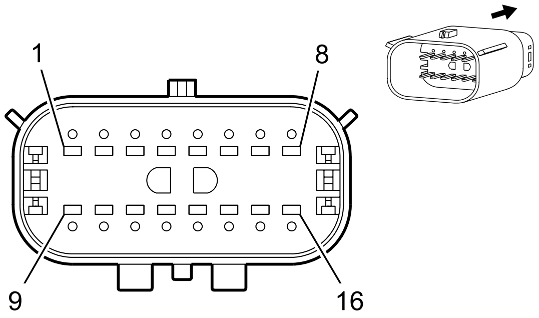

Connector Part Information

Harness Type: Rear Object Alarm Sensor

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 16-Way F

Connector Part Information

Harness Type: Chassis

OEM Connector: 33172365

Service Connector: 19300393

Description: 16-Way M 150 MX Series, Sealed (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	19119440	J-35616-3 (GY)	J-38125-217	Not Available	Not Available	Not Available	Not Available

X901 Rear Object Alarm Sensor Harness to Chassis Harness

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.75	GY/BN	309	I	—	Right Park Lamp Control	1	0.75	GY/BN	309	II	—
2	0.75	VT/GY	709	I	—	Left Park Lamp Control	2	0.75	VT/GY	709	II	—
3	0.5	L-GN/YE	6846	I	—	Rear License Lamp Control	3	0.5	L-GN/YE	6846	II	—
4	0.5	L-GN/YE	6846	I	—	Rear License Lamp Control	4	0.5	L-GN/YE	6846	II	—

6	0.5	BK/GY	2379	I	—	Object Sensor Low Reference	6	0.5	BK/GY	2379	II	—
7	0.5	BN/WH	2374	I	—	Object Sensor Control	7	0.5	BN/WH	2374	II	—
9	0.5	YE	2375	I	—	Left Rear Corner Object Sensor Signal	9	0.5	YE	2375	II	—
10	0.5	YE/D-BU	2376	I	—	Left Rear Middle Object Sensor Signal	10	0.5	YE/D-BU	2376	II	—
11	0.5	YE/RD	2377	I	—	Right Rear Middle Object Sensor Signal	11	0.5	YE/RD	2377	II	—
12	0.5	YE/VT	2378	I	—	Right Rear Corner Object Sensor Signal	12	0.5	YE/VT	2378	II	—
13	0.5	BK	1750	I	—	Ground	13	0.5	BK	1750	II	—
14	0.5	BK	1750	I	—	Ground	14	0.5	BK	1750	II	—
15	0.5	BK	1750	I	—	Ground	15	0.5	BK	1750	II	—
16	0.5	BK	1750	I	—	Ground	16	0.5	BK	1750	II	—

X950 Chassis Harness to Backup Alarm Jumper (8S3 or UY2)

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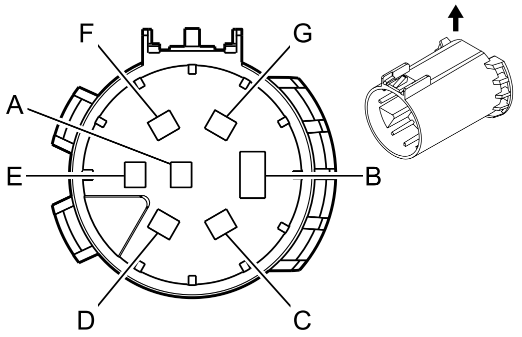


Connector Part Information

Harness Type: Chassis

OEM Connector: Not Available

Service Connector: Service by Harness - See Part Catalog

Description: 7-Way F

Connector Part Information

Harness Type: Backup Alarm Jumper

OEM Connector: 15317327

Service Connector: Service by Harness - See Part Catalog

Description: 7-Way M 280 Metri-Pack Series (BK)

Terminal Part Information

Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	Not Required	Not Available	No Tool Required	Not Required	Not Required	Not Required	Not Required
II	Not Required	J-35616-43 (RD)	No Tool Required	Not Required	Not Required	Not Required	Not Required
III	Not Required	J-35616-5 (PU)	No Tool Required	Not Required	Not Required	Not Required	Not Required

X950 Chassis Harness to Backup Alarm Jumper (8S3 or UY2)

Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
G	0.75 0.8	YE/GY YE	1618 1618	I	— —	Left Rear Trailer Stop/Turn Lamp Control	G	0.75 0.8	YE/GY YE	1618 1618	III	— —
F	1 1.5	BN GY/BN	2109 2109	I	— —	Trailer Park Lamp Control	F	1 1.5	BN GY/BN	2109 2109	III	— —

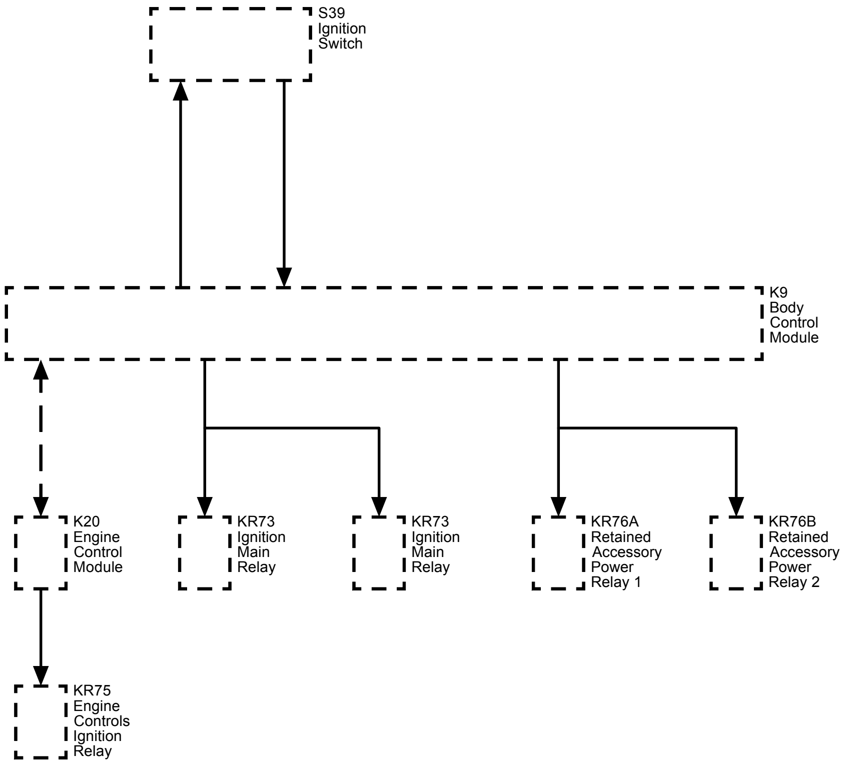
E	3	RD/BK	742	I	—	Battery Positive Voltage	E	3	RD/BK	742	III	—
	4	RD/L-GN	742		—			4	RD/L-GN	742		—
D	0.75	L-GN/VT	1619	I	—	Right Rear Trailer Stop/Turn Lamp Control	D	0.75	L-GN/VT	1619	III	—
	0.8	D-GN	1619		—			0.8	D-GN	1619		—
C	2.5	D-BU	47	I	—	Trailer Auxiliary Control	C	2.5	D-BU	47	III	—
	3	D-BU	47		—			3	D-BU	47		—
B	5	WH	22	I	—	Trailer Ground	B	5	WH	22	II	—
	6	WH	22		—			6	WH	22		—
A	0.75	WH/L-GN	1624	I	—	Trailer Backup Lamp Control	A	0.75	WH/L-GN	1624	III	—
	1	L-GN	1624		—			1	L-GN	1624		—

Description and Operation

Power Mode Description and Operation

Serial Data Power Mode Master

Power Moding Description and Operation Block Diagram



Power to many of this vehicles circuits is controlled by the module that is designated the power mode master. This vehicles power mode master is the body control module (BCM). The BCM has multiple B+ circuits that feed into it. Each of those circuits are partitioned within the controller to drive certain outputs of the vehicle's body functions. An open or short in any one of the B+ circuits may induce multiple codes/or a section of non-functionality within the BCM with the rest of the BCM functioning normally. In this case it is useful to refer to the power distribution schematics to determine if the non-functional partition of the controller shares a common B+ circuit. The ignition switch is a low current switch with multiple discrete ignition switch signals to the power mode master for determination of the power mode that will be sent over the serial data circuits to the other modules that need this information. The power mode master will also activate relays and other direct outputs of the power mode master as needed. The power mode master determines which power mode (Off, Accessory, Run, Crank Request) is required, and reports this information to other modules via serial data. Modules which have switched voltage inputs may operate in a default mode if the power mode serial data message does not match what the individual module can see from its own connections.

The power mode master receives ignition switch signals to identify the operators desired power mode. The Power Mode Parameter tables below illustrate the correct state of these input parameters (circuits) in correspondence to the ignition switch position:

Power Mode Parameters

Ignition Switch Position	Power Mode Transmitted	Ign. Off/Run/Crank (Off/Run Crank Voltage Circuit)	Ignition Accessory/Run (Accessory Voltage Circuit)	Ignition Run/Crank (Ignition 1 Voltage Circuit)
Off Key Out	Off	Key Out / ACC	Inactive	Inactive
Off Key IN	Off	Key In / Off	Inactive	Inactive

Accessory	Accessory	Key Out / ACC	Active	Inactive
Run	Run	Run	Active	Active
Start	Crank Request	Crank	Inactive	Active

Relay Controlled Power Mode

The BCM uses the discrete ignition switch inputs Off/Run/Crank Voltage, Accessory Voltage, and Ignition 1 Voltage, to distinguish the correct power mode. The BCM, after determining the desired power mode, will activate the appropriate relays for that power mode.

The retained accessory power relay 1 and retained accessory power relay 2 remain on for a timed period after the Ignition key is removed. Refer to Retained Accessory Power Description and Operation for more information on the retained accessory power function.

Battery Saver Mode (Transport Mode)

Battery saver mode (transport mode) reduces the parasitic load of some modules during overseas shipment or during vehicle storage conditions. This improves the drain time on the battery (up to 70 days without the battery going dead). When a vehicle is in transport/storage, some features may have reduced functionality while in the battery saver mode, such as disabling keyless entry, afterblow, and content theft features. Battery saver mode is initiated by turning on the hazard flashers, applying the brake pedal, and then turning the ignition key to the start position or pushing the ignition mode switch with the foot on the brake for greater than 15 seconds. The mode is disengaged by repeating the previous process. The driver information center (if equipped) will display Transport Mode is On when battery saver mode is enabled and Transport Mode is Off when battery saver mode is disabled. For vehicles not equipped with a driver information center, the battery indicator light will constantly flash on the Instrument Cluster when battery saver mode is enabled. This feature can be used as many times as necessary if the vehicle is to be stored for an extended period of time.

BCM Awake/Sleep States

The BCM is able to control or perform all of the BCM functions in the awake state. The BCM enters the sleep state when active control or normal monitoring of system functions has stopped and a time limit has passed. The BCM must detect certain wake-up inputs before entering the awake state. The BCM monitors for these inputs during the sleep state.

The BCM will enter the awake state if any of the following wake-up inputs are detected:

- Activity on the serial data line
- Detection of a battery reconnect
- Any door open signal
- Headlamps ON
- Key-in-ignition
- Ignition ON
- Park lamps ON
- Keyless entry or remote start message

The BCM will enter a sleep state when all of the following conditions exist:

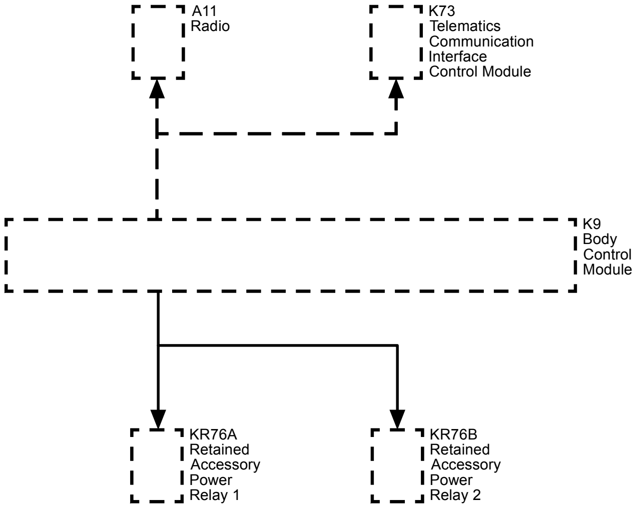
- The ignition switch is OFF, key out.
- Ignition OFF, transmitter is out of range
- No activity exists on the serial data line.
- No outputs are commanded.
- No delay timers are actively counting.
- No wake-up inputs are present.

If all these conditions are met, the BCM will enter a low power or sleep condition.

Retained Accessory Power Description and Operation

Retained Accessory Power

RAP Description and Operation Block Diagram



The body control module (BCM) monitors the ignition switch position, battery condition, and each door ajar/open switch status to determine whether the retained accessory power should be initiated or terminated. Retained accessory power is controlled by two different methods; relay control and serial data. Some modules receive a retained accessory power message from the BCM over the serial data circuits. Serial data controlled retained accessory power is deactivated as required by their modules retained accessory power mode operation. Other subsystems are activated directly by the BCM through a relay. Components and systems that are active in retained accessory power are also activated anytime the ignition is any position other than OFF regardless of the door switch signals.

Relay Controlled Retained Accessory Power

The BCM keeps the retained accessory power relay 1 and retained accessory power relay 2 energized during all power modes, except Off-Awake and Crank. The retained accessory power relay 1 and retained accessory power relay 2 are also energized for approximately 10 minutes after shutting the ignition OFF and removing the key, providing no door is opened.

Relay controlled retained accessory power will end when one of the following conditions is met:

- The BCM receives an input from any door ajar or open switch indicating the opening of any door after the ignition key is out of the ignition.

  Note: If the BCM is receiving any door ajar or open signal from those switches when the ignition key is turned OFF, retained accessory power will not initiate.

- The BCM internal timer for the retained accessory power expires after approximately 10 minutes.
- The BCM detects a decrease in battery capacity below a prescribed limit.

Systems powered by the retained accessory power relay 1 and retained accessory power relay 2 during the retained accessory power mode are as follows:

Note: The vehicle may not be equipped with all components as listed below.

- Accessory Power Receptacle
- Cigarette Lighter Receptacle
- Sunroof Control Module
- Sunroof Switch
- Sliding Rear Window Switch
- Mobile Device Wireless Charger Module

Serial Data Controlled Retained Accessory Power

Retained accessory power systems controlled by serial data are as follows:

Radio

Radio retained accessory power activation / termination is the same as relay operation with one exception; the only door switch that will turn off the radio during retained accessory power is the driver door open switch.

Vehicle Communication Interface Module (VCIM) (Onstar®) (If Equipped)

VCIM RAP activation/termination is the same as radio operation with 1 exception; if there is an active call when the ignition key is turned off the VCIM will remain in RAP mode, and keep the radio in RAP mode until the call is terminated.

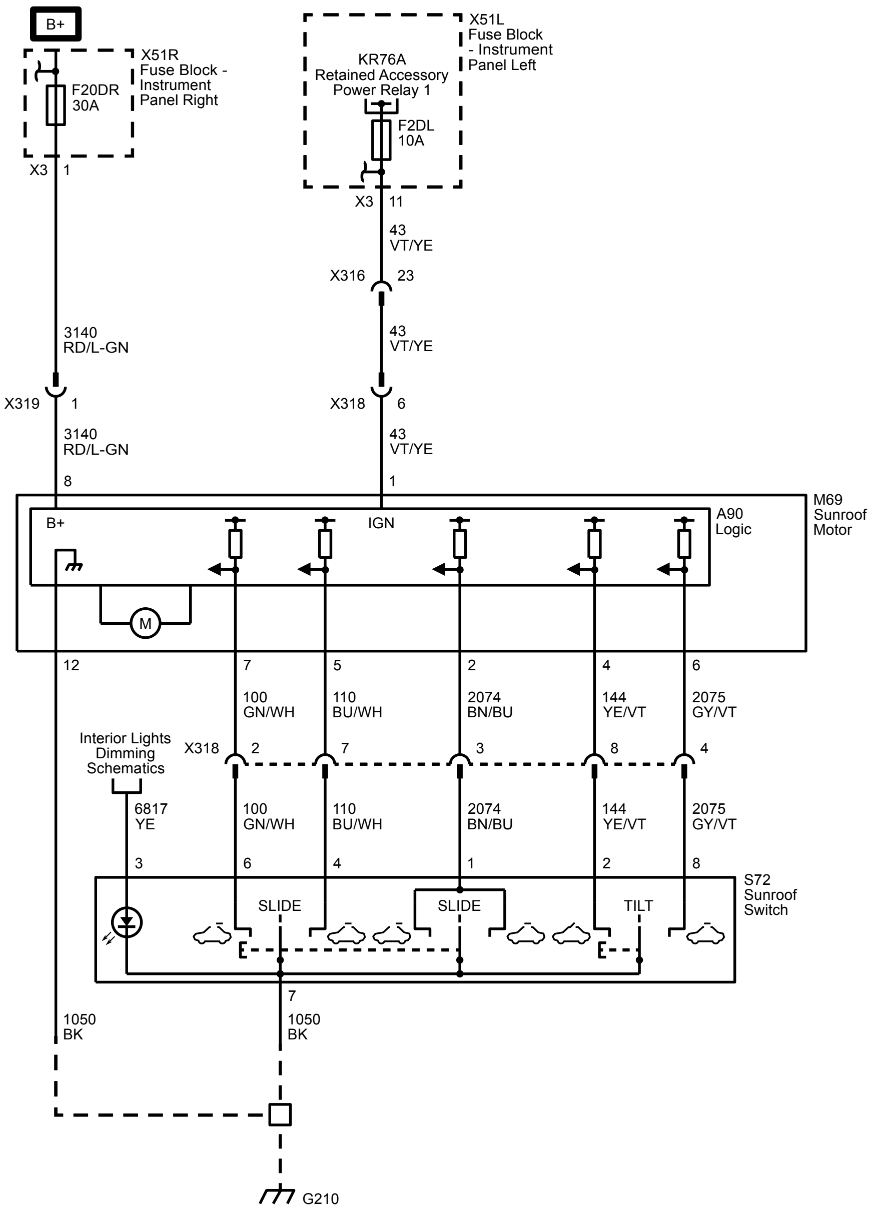
Roof

Sunroof

Schematic and Routing Diagrams

Sunroof Schematics

Sunroof (CF5)


B+
X51R
Fuse Block - Instrument Panel Right
F20DR
30A
X3
1
3140
RD/L-GN
X319
1
3140
RD/L-GN
8
X51L
Fuse Block - Instrument Panel Left
KR76A
Retained Accessory Power Relay 1
F2DL
10A
X3
11
43
VT/YE
X316
23
43
VT/YE
X318
6
43
VT/YE
1
M69
Sunroof
Motor
A90
Logic
B+
IGN
M
12
7
5
2
4
6
100
GN/WH
110
BU/WH
2074
BN/BU
144
YE/VT
2075
GY/VT
Interior Lights Dimming Schematics
X318
2
7
3
8
4
6817
YE
100
GN/WH
110
BU/WH
2074
BN/BU
144
YE/VT
2075
GY/VT
3
6
4
1
2
8
S72
Sunroof
Switch
SLIDE
SLIDE
TILT
7
1050
BK
1050
BK
G210

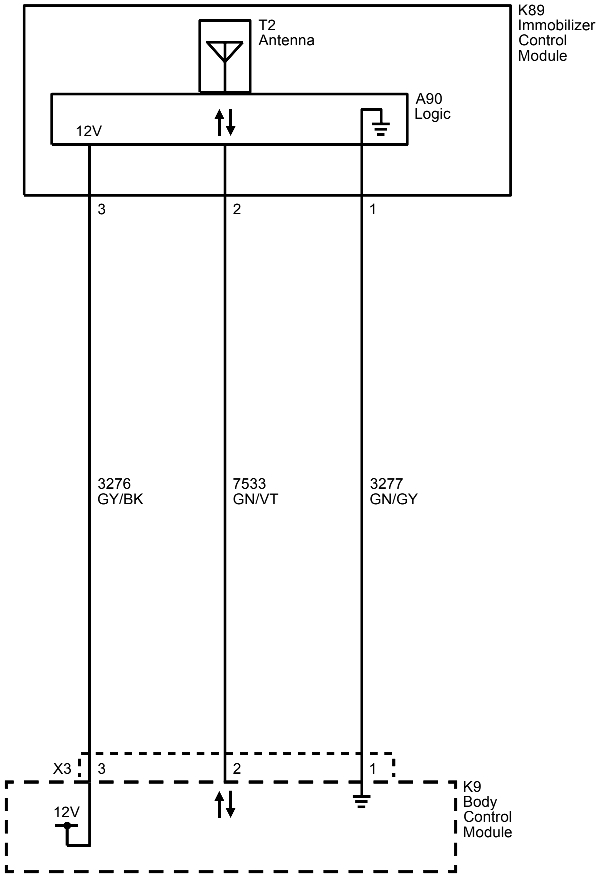
Safety and Security

Immobilizer

Schematic and Routing Diagrams

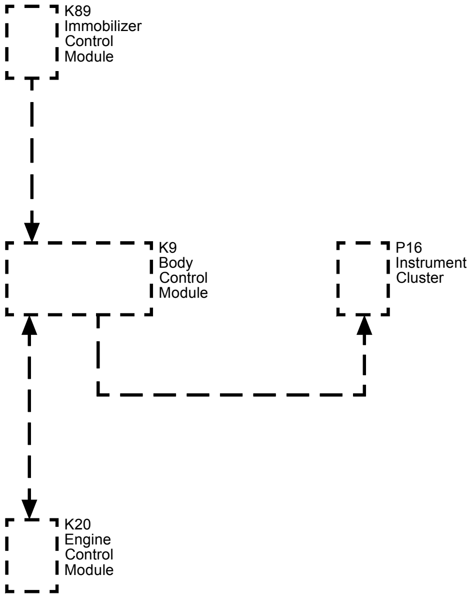
Immobilizer Schematics

Immobilizer


K89 Immobilizer Control Module
T2 Antenna
A90 Logic
12V
3
2
1
3276 GY/BK
7533 GN/VT
3277 GN/GY
X3
3
2
1
12V
K9 Body Control Module

Description and Operation

Immobilizer Description and Operation



The immobilizer system functions are provided by the body control module (BCM) and the engine control module (ECM), as well as any control modules which store and report the environment identifier.

When an ignition key is inserted into the ignition lock cylinder and the ignition is switched ON, the transponder in the key is energized by the immobilizer coil surrounding the ignition lock cylinder. This immobilizer coil is part of the immobilizer control module. The transponder transmits a signal that contains its unique value, which is received by the BCM through the immobilizer coil. The BCM then compares this value to a value stored in memory. The BCM also monitors various control modules to determine if the stored environment identifiers match.

If both the environment identifier and the value received from the transponder match, the BCM will send the prerelease password via serial data to the ECM. If the encrypted code's unique value is incorrect or the environment identifier does not match, the BCM will send the start disable message to the ECM.

When the ECM receives the BCM prerelease password, the ECM will challenge the password. The ECM sends this challenge to the BCM via serial data. Both the ECM and BCM perform a calculation on this challenge. If the BCM calculated response to the challenge equals the calculation performed by the ECM, the ECM will allow vehicle starting.

The components of the theft system are as follows:

- BCM
- ECM
- Immobilizer control module
- Ignition key
- Security indicator
- Various control modules which store and report the environment identifier

Body Control Module (BCM)

The immobilizer system is an integral part of the BCM and is controlled internally within the BCM. The BCM can learn up to 8 keys (transponder values).

The BCM uses the following inputs:

- Environment identifier exchange with various modules
- Encrypted code from the vehicle key, received by the immobilizer control module

The BCM uses the following outputs:

- Prerelease password communication with ECM
- Challenge/response with ECM

When an ignition key is inserted into the ignition lock cylinder and the ignition is switched ON, the encrypted code in the key is energized by the immobilizer control module surrounding the ignition lock cylinder. The energized transponder transmits a signal that contains its unique value, which is received by the BCM. The BCM then compares this value to the learned key code stored in memory. The BCM then performs one of the following functions:

- If the encrypted code value matches the values stored in the BCM memory, the BCM will send the prerelease password to the ECM via serial data.
- If the encrypted code unique value does not match the value stored in the BCM, the BCM will send the start disable message to the ECM via serial data.
- If the BCM is unable to measure the ignition key encrypted code value, the BCM will not send any messages to the ECM.

Engine Control Module (ECM)

When the ECM receives the BCM prerelease password, the ECM will challenge the password. The ECM sends this challenge to the BCM via the serial data circuit. Both the ECM and BCM perform a calculation on this challenge. If the calculated response from the BCM equals the calculation performed by the ECM, the ECM will allow vehicle starting.

The ECM will disable vehicle starting if any of the following immobilization conditions occur:

- The prerelease password is invalid.
- The start disable password is sent by the BCM.
- No passwords are received. There is no communication with the BCM.
- The BCM calculated response to the challenge does not equal the calculation performed by the ECM.

Immobilizer Control Module

The immobilizer control module contains an immobilizer coil which surrounds the ignition cylinder. The coil passively powers the transponder located in the ignition key when the key is in the ignition. When powered, the key transmits its unique value to the immobilizer control module, which is then relayed to the BCM via a discrete serial data circuit. The immobilizer control module also receives B+ and ground from the BCM.

The immobilizer control module is used to:

1. Learn keys
2. To start the vehicle

Ignition Key

Each ignition key contains a transponder with a unique encrypted value. The transponder's encrypted value is fixed and unable to be changed. The immobilizer system uses the ignition key transponder value to determine if a valid ignition key is being used to start the vehicle.

Environment Identifier

Various modules throughout the vehicle learn a specific environment identifier during the module programming process. The environment identifier is learned by each individual module and matches the environment identifier stored in the BCM. Prior to starting after a battery disconnect, each of the modules which store a environment identifier will compare their identifier to that of the identifier stored in the BCM. If all the identifiers match, the engine starting process will continue. If the environment identifiers do not match, engine starting will be disabled.

Security Indicator

The BCM will command the instrument cluster to illuminate the security indicator when the ignition is in the ON position to indicate a fault has occurred within the immobilizer system and when the engine starting is disabled.

Remote Vehicle Speed Limiting Description and Operation

Certain vehicles equipped with OnStar® now have an additional feature that allows for remote limiting of the vehicle's speed. This OnStar® feature is called Stolen Vehicle Slow-Down and is now part of the OnStar® Stolen Vehicle Assistance service. This feature, when used in conjunction with local law enforcement and strict guidelines at the OnStar® Call Center, will slow the vehicle by interacting with the engine control system.

When the engine control system receives a valid request from the OnStar® telematics communications interface module, it will enter into a reduced engine power/vehicle speed limiting mode, which will decelerate the vehicle. Once the request is active the engine control module begins reducing engine torque to match requested vehicle speed and a REDUCED ENGINE POWER indication is displayed. No DTCs will be set during this process.

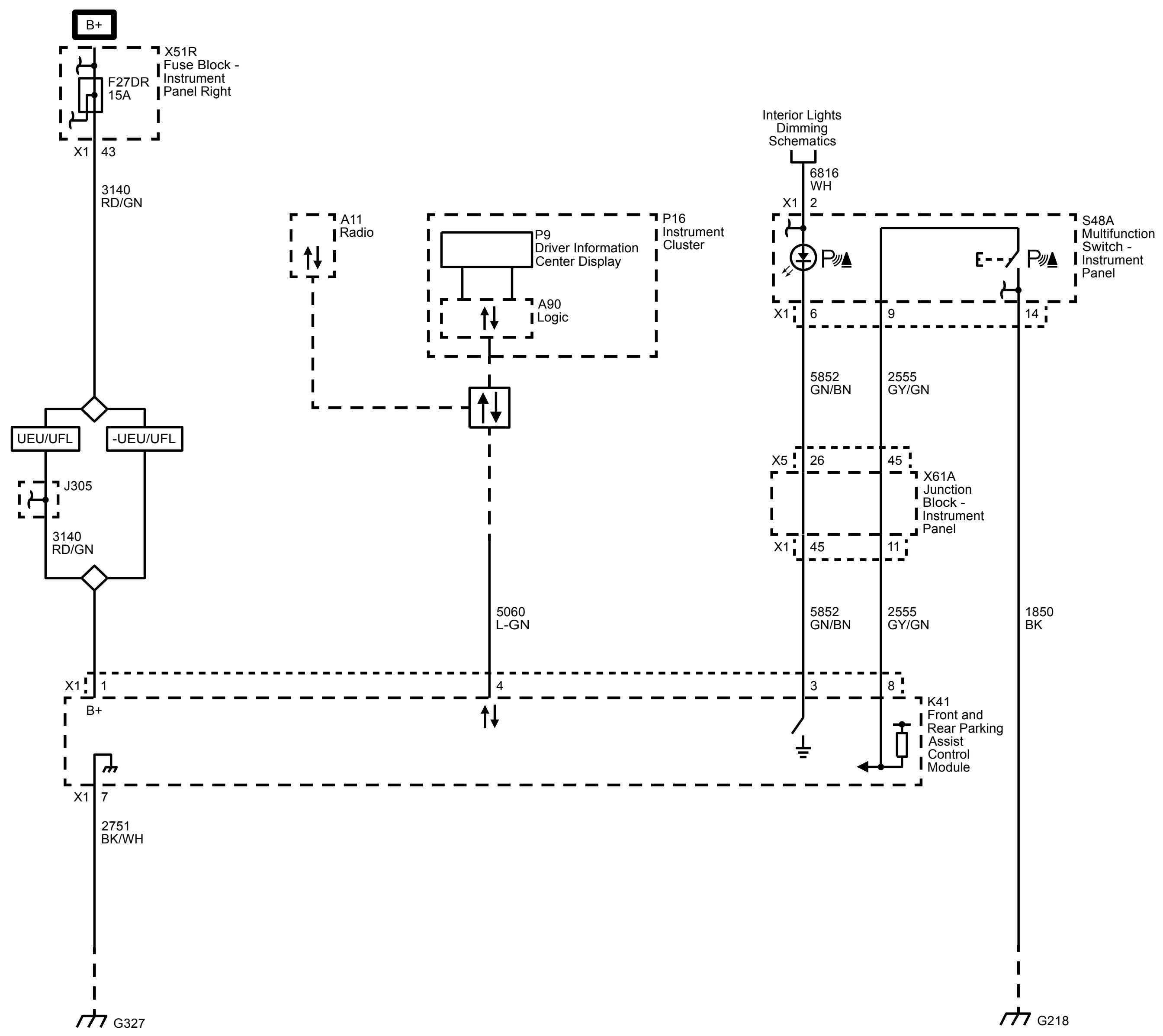
Safety and Security

Object Detection and Pedestrian Protection

Schematic and Routing Diagrams

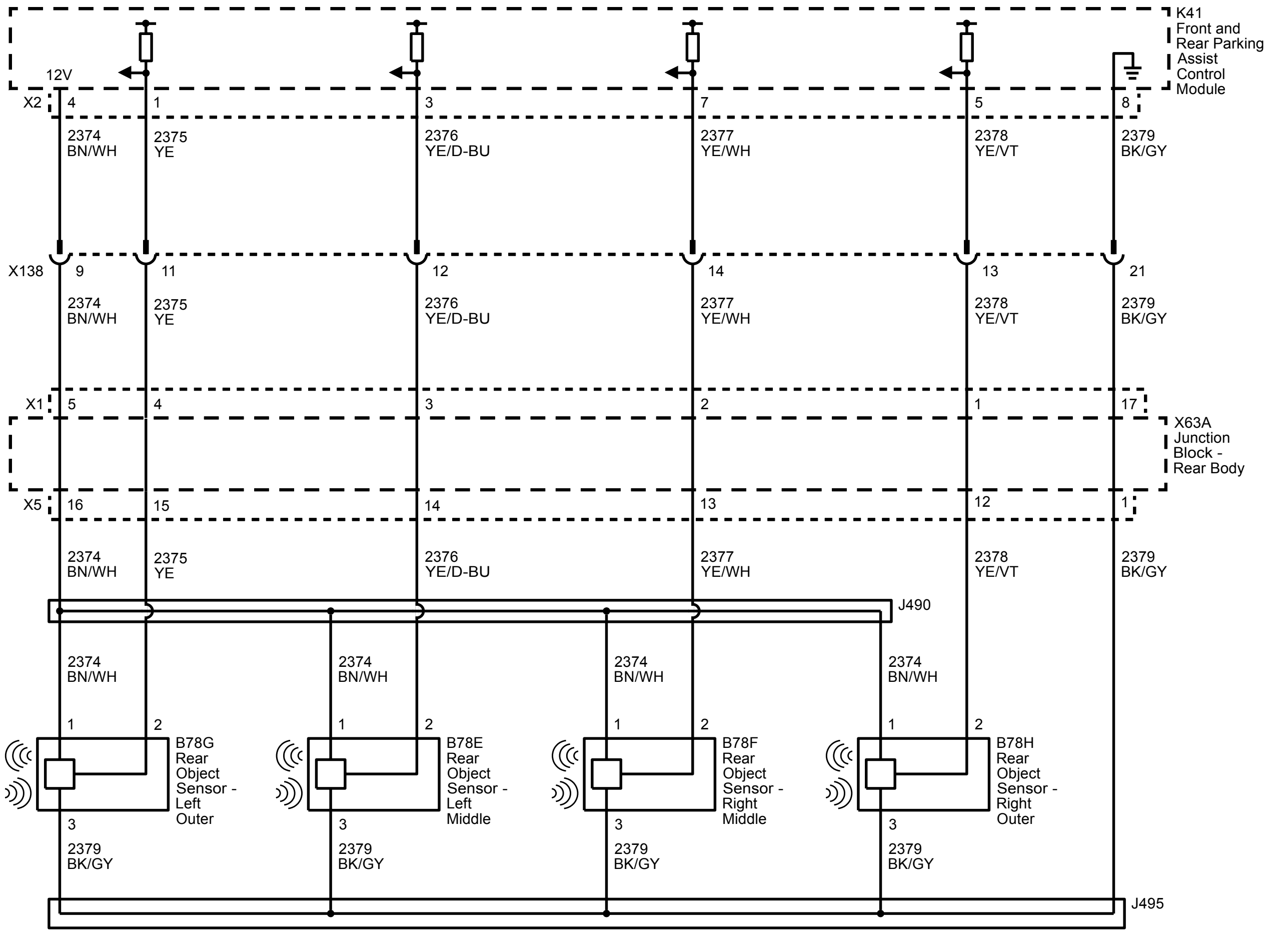
Object Detection Schematics

Park Assist - Power, Ground, Serial Data and Control (UD7 or UD5)



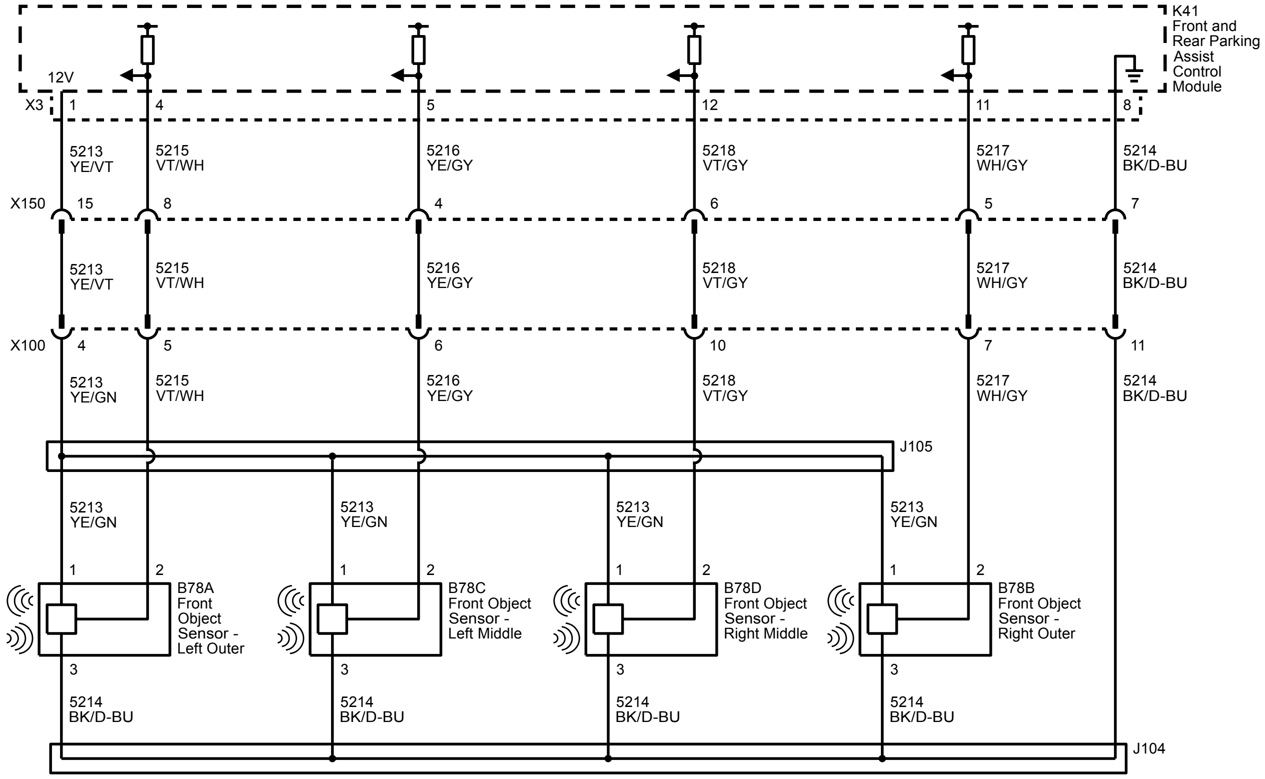
B+
X51R
Fuse Block -
Instrument
Panel Right
F27DR
15A
X1
43
3140
RD/GN
UEU/UFL
-UEU/UFL
J305
3140
RD/GN
A11
Radio
P16
Instrument
Cluster
P9
Driver Information
Center Display
A90
Logic
5060
L-GN
Interior Lights
Dimming
Schematics
6816
WH
X1
2
S48A
Multifunction
Switch -
Instrument
Panel
X1
6
9
14
5852
GN/BN
2555
GY/GN
X5
26
45
X61A
Junction
Block -
Instrument
Panel
X1
45
11
5852
GN/BN
2555
GY/GN
1850
BK
X1
1
4
3
8
B+
K41
Front and
Rear Parking
Assist
Control
Module
X1
7
2751
BK/WH
G327
G218

Park Assist - Rear Sensors (UD7 or UD5)

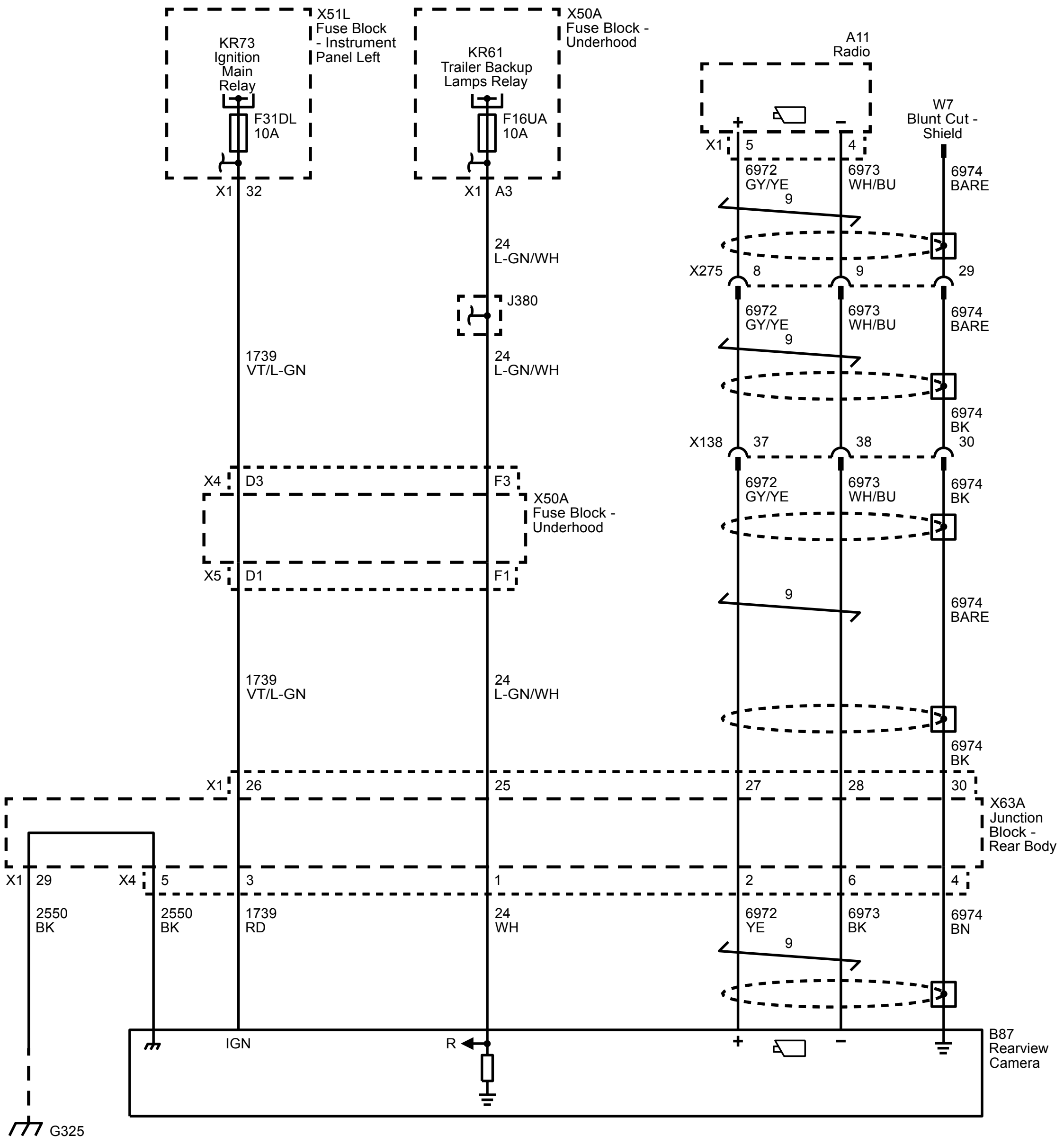

K41
Front and
Rear Parking
Assist
Control
Module
12V
X2
4
1
3
7
5
8
2374
BN/WH
2375
YE
2376
YE/D-BU
2377
YE/WH
2378
YE/VT
2379
BK/GY
X138
9
11
12
14
13
21
2374
BN/WH
2375
YE
2376
YE/D-BU
2377
YE/WH
2378
YE/VT
2379
BK/GY
X1
5
4
3
2
1
17
X63A
Junction
Block -
Rear Body
X5
16
15
14
13
12
1
2374
BN/WH
2375
YE
2376
YE/D-BU
2377
YE/WH
2378
YE/VT
2379
BK/GY
J490
2374
BN/WH
2374
BN/WH
2374
BN/WH
2374
BN/WH
1
2
B78G
Rear
Object
Sensor -
Left
Outer
1
2
B78E
Rear
Object
Sensor -
Left
Middle
1
2
B78F
Rear
Object
Sensor -
Right
Middle
1
2
B78H
Rear
Object
Sensor -
Right
Outer
3
2379
BK/GY
3
2379
BK/GY
3
2379
BK/GY
3
2379
BK/GY
J495

Park Assist - Front Sensors (UD5)

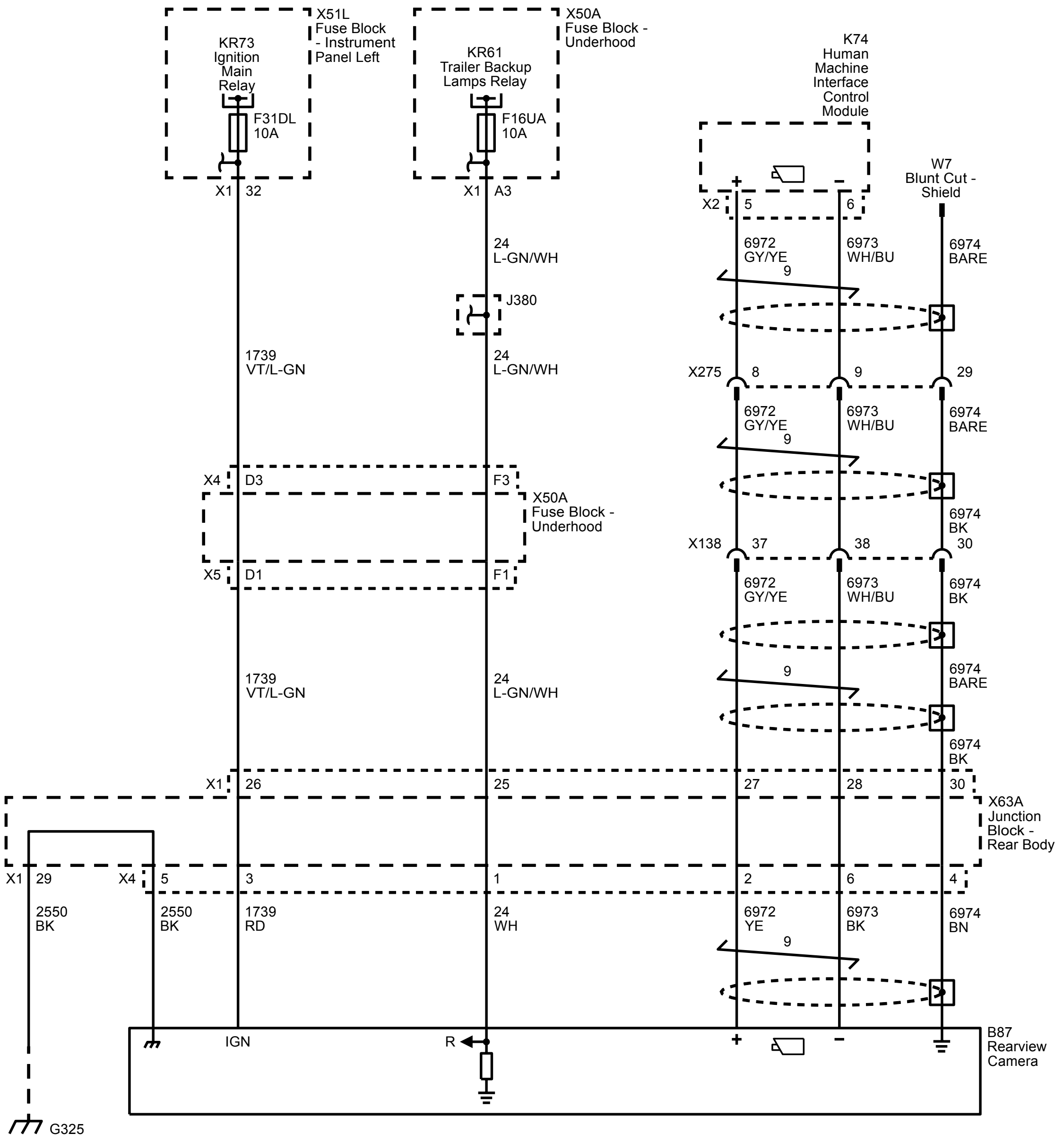
LOC
DESC


K41
Front and
Rear Parking
Assist
Control
Module
12V
X3
1
4
5
12
11
8
5213
YE/VT
5215
VT/WH
5216
YE/GY
5218
VT/GY
5217
WH/GY
5214
BK/D-BU
X150
15
8
4
6
5
7
5213
YE/VT
5215
VT/WH
5216
YE/GY
5218
VT/GY
5217
WH/GY
5214
BK/D-BU
X100
4
5
6
10
7
11
5213
YE/GN
5215
VT/WH
5216
YE/GY
5218
VT/GY
5217
WH/GY
5214
BK/D-BU
J105
5213
YE/GN
5213
YE/GN
5213
YE/GN
5213
YE/GN
1
2
B78A
Front
Object
Sensor -
Left Outer
1
2
B78C
Front Object
Sensor -
Left Middle
1
2
B78D
Front Object
Sensor -
Right Middle
1
2
B78B
Front Object
Sensor -
Right Outer
3
5214
BK/D-BU
3
5214
BK/D-BU
3
5214
BK/D-BU
3
5214
BK/D-BU
J104

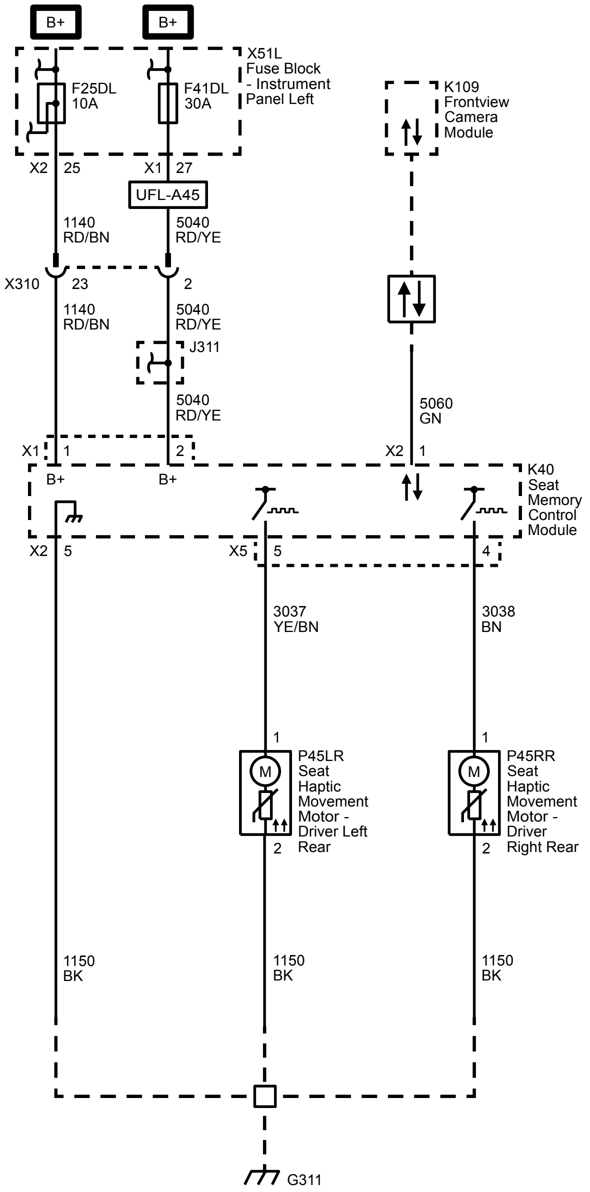
Rearview Camera (UVC with IO3)



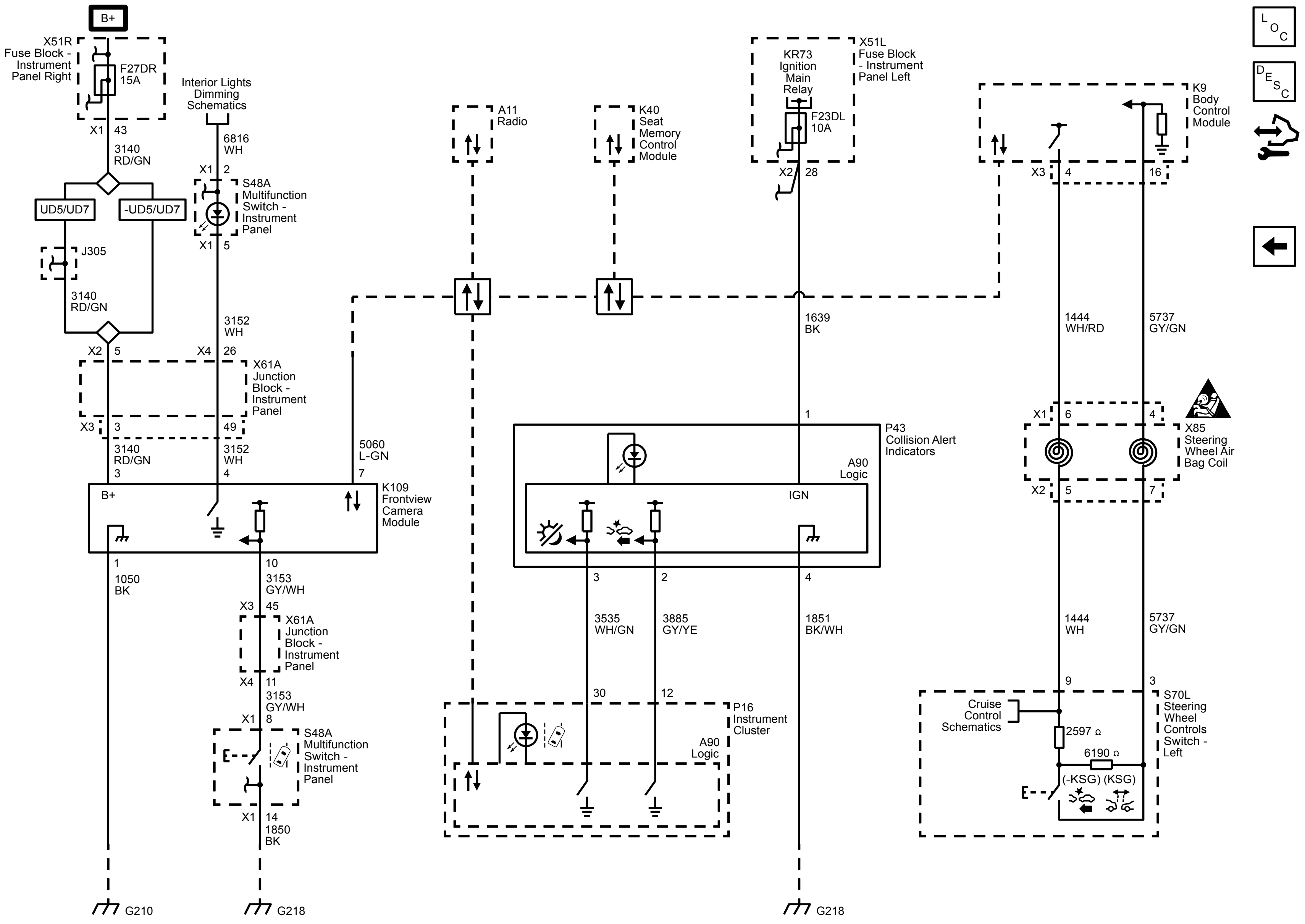
X51L
Fuse Block - Instrument Panel Left
KR73 Ignition Main Relay
F31DL 10A
X1 32
X50A
Fuse Block - Underhood
KR61 Trailer Backup Lamps Relay
F16UA 10A
X1 A3
A11 Radio
+
−
X1 5
4
W7 Blunt Cut - Shield
6972 GY/YE
6973 WH/BU
6974 BARE
9
X275 8
9
29
6972 GY/YE
6973 WH/BU
6974 BARE
9
6974 BK
X138 37
38
30
24 L-GN/WH
J380
24 L-GN/WH
1739 VT/L-GN
X4 D3
F3
X50A
Fuse Block - Underhood
X5 D1
F1
6972 GY/YE
6973 WH/BU
6974 BK
9
6974 BARE
1739 VT/L-GN
24 L-GN/WH
6974 BK
X1 26
25
27
28
30
X63A
Junction Block - Rear Body
X1 29
X4 5
3
1
2
6
4
2550 BK
2550 BK
1739 RD
24 WH
6972 YE
6973 BK
6974 BN
9
IGN
R
+
−
B87
Rearview Camera
G325


X51L Fuse Block - Instrument Panel Left
KR73 Ignition Main Relay
F31DL 10A
X1 32
1739 VT/L-GN
X50A Fuse Block - Underhood
KR61 Trailer Backup Lamps Relay
F16UA 10A
X1 A3
24 L-GN/WH
J380
24 L-GN/WH
K74 Human Machine Interface Control Module
X2 5 6
6972 GY/YE
6973 WH/BU
W7 Blunt Cut - Shield
6974 BARE
9
X275 8 9 29
6972 GY/YE
6973 WH/BU
6974 BARE
X4 D3 F3
X50A Fuse Block - Underhood
X5 D1 F1
6974 BK
X138 37 38 30
6972 GY/YE
6973 WH/BU
6974 BK
1739 VT/L-GN
24 L-GN/WH
6974 BARE
6974 BK
X1 26 25 27 28 30
X63A Junction Block - Rear Body
X1 29
X4 5 3 1 2 6 4
2550 BK
2550 BK
1739 RD
24 WH
6972 YE
6973 BK
6974 BN
IGN
R
+
−
B87 Rearview Camera
G325

Safety Alert Seat (UEU, UFL or UHX)


B+
B+
X51L
Fuse Block
- Instrument
Panel Left
F25DL
10A
F41DL
30A
X2
25
X1
27
UFL-A45
K109
Frontview
Camera
Module
1140
RD/BN
5040
RD/YE
X310
23
2
1140
RD/BN
5040
RD/YE
J311
5040
RD/YE
5060
GN
X1
1
2
X2
1
B+
B+
K40
Seat
Memory
Control
Module
X2
5
X5
5
4
3037
YE/BN
3038
BN
1
P45LR
Seat
Haptic
Movement
Motor -
Driver Left
Rear
2
1
P45RR
Seat
Haptic
Movement
Motor -
Driver
Right Rear
2
M
M
1150
BK
1150
BK
1150
BK
G311

Lane Departure Warning (UFL), Forward Collision Alert (UEU) and Lane Active Safety Keep Assist (UHX)



B+
X51R Fuse Block - Instrument Panel Right
F27DR 15A
X1 43
3140 RD/GN
UD5/UD7
-UD5/UD7
J305
3140 RD/GN
X2 5
Interior Lights Dimming Schematics
6816 WH
X1 2
S48A Multifunction Switch - Instrument Panel
X1 5
3152 WH
X4 26
X61A Junction Block - Instrument Panel
X3 3
49
3140 RD/GN
3
3152 WH
4
5060 L-GN
7
K109 Frontview Camera Module
B+
1
1050 BK
10
3153 GY/WH
X3 45
X61A Junction Block - Instrument Panel
X4 11
3153 GY/WH
X1 8
S48A Multifunction Switch - Instrument Panel
X1 14
1850 BK
G210
G218
A11 Radio
K40 Seat Memory Control Module
KR73 Ignition Main Relay
X51L Fuse Block - Instrument Panel Left
F23DL 10A
X2 28
1639 BK
1
P43 Collision Alert Indicators
A90 Logic
IGN
3
2
4
3535 WH/GN
3885 GY/YE
1851 BK/WH
30
12
P16 Instrument Cluster
A90 Logic
G218
K9 Body Control Module
X3 4
16
1444 WH/RD
5737 GY/GN
X1 6
4
X85 Steering Wheel Air Bag Coil
X2 5
7
1444 WH
5737 GY/GN
9
3
Cruise Control Schematics
2597 Ω
6190 Ω
(-KSG) (KSG)
S70L Steering Wheel Controls Switch - Left
L O C
D E S C

Description and Operation

Parking Assist Description and Operation (with UD7)

The parking assist system is designed to identify and notify the driver of an object in the vehicle path when reversing at speeds of less than 8 km/h (5 MPH). The distance and location of the object is determined by four object sensors located in the rear bumper. The parking assist system will notify the driver using audible beeps through the infotainment system.

The parking assist system is made up of the following components:

- Parking assist control module
- Object sensors
- Parking assist switch
- Parking assist switch indicator
- Infotainment system

Parking Assist Control Module

The parking assist control module provides a reference voltage and a low reference to the four object alarm sensors. The parking assist control module receives individual signals from each of the four sensors and determines the location and distance of an object based on these inputs. When an object is detected, the parking assist control module will send a message via serial data to the infotainment system requesting an audible alert.

Object Sensors

The object sensors are located in the rear bumper. The sensors are used to determine the distance between an object and the rear of the vehicle. Each sensor emits an ultrasonic frequency which is reflected off an object behind the vehicle. These reflections are received by the sensors. The time difference between the emission of the frequency and when the reflection is received is known as sensor echo time, it is used to determine the distance to the object. The sensors report this information to the parking assist control module.

Parking Assist Switch

The parking assist system can be activated and deactivated by pressing the parking assist switch. The parking assist control module applies voltage and monitors the parking assist switch signal circuit. The parking assist switch is a normally open switch. With the switch open, voltage seen at the parking assist control module is high. When the parking assist switch is pressed, the switch is closed and the signal circuit is pulled to ground. With the switch closed, voltage seen at the parking assist control module is low. The parking assist control module will respond to this by activating or deactivating the parking assist function.

Parking Assist Switch Indicator

When the parking assist system is enabled, the parking assist control module will illuminate the indicator on the switch. The indicator receives voltage through a high control circuit from the body control module (BCM) and is controlled through a low control circuit by the parking assist control module.

Infotainment System

The infotainment system controls the audible alert for the park assist alert. If the an object is detected the infotainment system will command beeps as an audible alert to the driver.

Parking Assist Operation

When an object is within the measuring range of the sensor, the ultrasonic pulse is reflected and is received by the sending or a neighboring sensor. The sensor converts this signal into a voltage signal and sends this signal to the parking assist control module. The parking assist control module evaluates the received sensor signals. As soon as an object is within the measuring range, the parking assist control module sends a message via serial data to the infotainment system to provide an alert signal.

The parking assist system can detect objects greater than 7.6 cm (3 in) wide and 25.4 cm (10 in) tall. The system cannot detect objects below the bumper or underneath the vehicle.

The parking assist system can be activated and deactivated by pressing the parking assist switch. When the transmission is in R, park assist is automatically activated, unless disable by the switch.

The parking assist control module carries out a self test and monitors the sensors for electrical and mechanical faults. Monitored is the power supply of each sensor and the sensor signals. Mud, ice and snow may cause obstruction of the function of the sensors. The parking assist control module also determines if the correct type of sensor is installed. If any of these tests fails, a DTC with corresponding symptom is set and the parking assist system is deactivated.

Parking Assist System Driver Information Center Messages

SERVICE PARK ASSIST

The driver information center displays SERVICE PARK ASSIST when the parking assist control module detects a malfunction in the parking assist system and the system is disabled. The driver information center also displays SERVICE PARK ASSIST when a loss of communication occurs with the parking assist control module.

PARK ASSIST OFF

The PARK ASSIST OFF message is displayed in the driver information center when the parking assist system is disabled due to conditions that disable or inhibit the system. The parking assist control module requests the driver information center display PARK ASSIST OFF when it detects that one of the following conditions:

- The parking assist system is manually disabled using the parking assist switch.
- An object is attached to the rear of the vehicle, such as a trailer, bicycle rack, trailer hitch receiver, or tow bar. Also, an object extending beyond a lowered tailgate will disable the system.
- The object sensors are covered by snow, mud, dirt, slush, or ice.
- The rear bumper is damaged.
- Excessive paint thickness on a replacement parking assist sensor.
- The object sensors are disrupted by vibrations, like those caused by a large nearby vehicle or from heavy equipment such as a jackhammer.

Parking Assist Description and Operation (with UD5)

The parking assist system is designed to identify and notify the driver of an object in the vehicle path when moving forward or reversing at speeds of less than 8 km/h (5 MPH). The distance and location of the object is determined by four object sensor located in the rear bumper and four object sensors located in the front bumper. The parking assist system will notify the driver using audible beeps through the infotainment system or haptic pulses through the driver's seat (if equipped).

The parking assist system is made up of the following components:

- Front and rear parking assist control module
- Front object sensors
- Rear object sensors
- Parking assist switch
- Parking assist indicator
- Infotainment system
- Safety alert seat, if equipped.

Front and rear parking assist control module

The front and rear parking assist control module provides a reference voltage and a low reference to the eight object alarm sensors. The front and rear parking assist control module receives individual signals from each of the eight sensors and determines the location and distance of an object based on these inputs. When an object is detected, the front and rear parking assist control module will send a serial data message to the infotainment system requesting an audible alert.

Object Sensors

The object sensors are located in the front and rear bumpers of the vehicle. The sensors are used to determine the distance between an object and the bumper. Each sensor emits an ultrasonic frequency which is reflected off any object located in front of or behind the vehicle. These reflections are received by the sensors. The time difference between the emission of the frequency and when the reflection is received is known as sensor echo time, it is used to determine the distance to the object. The sensors report this information to the front and rear parking assist control module.

Parking Assist Switch

The parking assist system can be activated and deactivated by pressing the parking assist switch. The front and rear parking assist control module applies voltage and monitors the parking assist switch signal circuit. The parking assist switch is a normally open switch. With the switch open, voltage seen at the front and rear parking assist control module is high. When the parking assist switch is pressed, the switch is closed and the signal circuit is pulled to ground. With the switch closed, voltage seen at the front and rear parking assist control module is low. The front and rear parking assist control module will respond to this by activating or deactivating the parking assist function.

Parking Assist Indicator

When the parking assist system is enabled, the front and rear parking assist control module will illuminate the indicator on the switch. The indicator receives voltage through a high control circuit from the body control module (BCM) and is controlled through a low control circuit by the front and rear parking assist control module.

Infotainment system

The infotainment system controls the audible alert for the park assist alert. If the an object is detected the infotainment system will command beeps as an audible alert to the driver.

Safety alert seat (if equipped)

The memory seat module controls the haptic alert provided by the seats. If an object is detected, the memory seat module will command pulses to the driver's seat.

Parking Assist Operation

When an object is within the measuring range of the sensor, the ultrasonic pulse is reflected and is received by the sending or a neighboring sensor. The sensor converts this signal into a voltage signal and sends this signal to the front and rear parking assist control module. The front and rear parking assist control module evaluates the received sensor signals. As soon as an object is within the measuring range, the front and rear parking assist control module sends a message via serial data to the infotainment system to provide an alert signal.

The parking assist system can detect objects greater than 7.6 cm (3 in) wide and 25.4 cm (10 in) tall. The system cannot detect objects below the bumper or underneath the vehicle.

The parking assist system can be activated and deactivated by pressing the parking assist switch. When the transmission is in R, park assist is automatically activated, unless disable by the switch.

The front and rear parking assist control module carries out a self test and monitors the sensors for electrical and mechanical faults. Monitored is the power supply of each sensor and the sensor signals. Mud, ice and snow may cause obstruction of the function of the sensors. The front and rear parking assist control module also determines if the correct type of sensor is installed. If any of these tests fails, a DTC with corresponding symptom is set and the parking assist system is deactivated.

When an object is 120 cm (47 in) to 31 cm (12 in) in front of the vehicle, the proximity of the object from the vehicle communicated via the instrument cluster.

When an object is very close (<0.6 m (2 ft) in the vehicle rear, or <0.3 m (1 ft) in the vehicle front), a continuous beep will sound from the front or rear, or both sides of the Safety Alert Seat (if equipped) will pulse.

Parking Assist System Driver Information Center Messages

SERVICE PARK ASSIST

The driver information center displays SERVICE PARK ASSIST when the front and rear parking assist control module detects a malfunction in the parking assist system and the system is disabled. The driver information center also displays SERVICE PARK ASSIST when a loss of communication occurs with the front and rear parking assist control module.

PARK ASSIST OFF

The PARK ASSIST OFF message is displayed in the driver information center when the parking assist system is disabled due to conditions that disable or inhibit the system. The front and rear parking assist control module requests the driver information center display PARK ASSIST OFF when it detects that one of the following conditions:

- The parking assist system is manually disabled using the parking assist switch.
- An object is attached to the rear of the vehicle, such as a trailer, bicycle rack, trailer hitch receiver, or tow bar. Also, an object extending beyond a lowered tailgate will disable the system.

- The parking assist sensors are covered by snow, mud, dirt, slush, or ice.
- The vehicle bumper is damaged.
- Excessive paint thickness on a replacement parking assist sensor.
- The parking assist sensors are disrupted by vibrations, like those caused by a large nearby vehicle or from heavy equipment such as a jackhammer.

Lane Departure Warning Description and Operation

The lane departure warning system is a convenience feature that utilizes the frontview camera module to determine if the vehicle has unintentionally crossed a lane marking and issue a warning. The frontview camera module is located behind the windshield, looking out at the road ahead and detecting any lane markings. When the vehicle unintentionally leaves a detected lane, visual and audible or haptic (if equipped) alerts are given to the driver. The visual alert cannot be changed, but the driver can select between audible or haptic alerts (if equipped)vin the vehicle personalization menus. Refer to the vehicle owner's manual for vehicle personalization options.

The lane departure warning system utilizes the following components:

- Frontview camera module
- Lane departure warning switch
- Instrument cluster
- Infotainment system
- Safety alert seat, if equipped

Frontview Camera Module

The frontview camera module detects visual queues such as lane markings. When it is determined that the vehicle has unintentionally moved outside of the lane, visual and audible or haptic (if equipped) warning is given to the driver. The frontview camera module receives an input from the lane departure warning switch and controls the lane departure warning switch indicator output. The frontview camera module also communicates via serial data with the instrument cluster, infotainment system, and memory seat module to request visual, audible, and/or haptic alerts.

Lane Departure Warning Switch

The lane departure warning switch provides an input to the frontview camera module to turn the lane departure warning system on and off. The frontview camera module applies voltage and monitors the parking assist switch signal circuit. The lane departure warning switch is a normally open switch. With the switch open, voltage seen at the frontview camera module is high. When the lane departure warning switch is pressed, the switch is closed and the signal circuit is pulled to ground. With the switch closed, voltage seen at the frontview camera module is low. The frontview camera module will respond to this by activating or deactivating the lane departure warning system.

The lane departure warning switch also utilizes the lane departure warning indicator, which is part of the lane departure warning switch and is controlled by the frontview camera module to indicate the operational status of the lane departure warning system. When the lane departure warning is enabled, the frontview camera module will illuminate the indicator on the switch. The indicator receives voltage through a high control circuit from the body control module (BCM) and is controlled through a low control circuit by the frontview camera module.

Instrument Cluster

The instrument cluster contains green and amber lane departure warning indicators. These indicators inform the driver of the current status of the lane departure warning system and are controlled via serial data by the frontview camera module. When the vehicle speed is above 56 km/h (35 MPH) and the system has detected the required lane markings and is ready to assist, the green indicator will be illuminated. If the vehicle has unintentionally left the lane, the amber indicator will flash.

Infotainment System

The infotainment system controls the audible alert for the lane departure warning. If the vehicle has unintentionally left the lane, the frontview camera module will request via serial data an audible alert to the driver through the infotainment system

Safety Alert Seat

The memory seat module controls the haptic alert provided by the seats. If the vehicle has unintentionally left the lane, the memory seat module will command pulses to the left or right side of the seat, depending on the lane departure direction.

Lane Departure Warning Operation

System Operational Modes

- Off State: The system has been turned off by the driver using the lane departure warning switch. The lane departure warning indicator located on the lane departure warning switch will not be illuminated.
- Not Ready To Assist: The system is enabled and the lane departure warning indicator located on the lane departure warning switch is illuminated, but the system is not ready to assist because one of the following conditions is true:
  - Vehicle speed is less than 56 km/h (35 MPH). The system is designed to function at speeds greater than 56 km/h (35 MPH).
  - The system cannot detect lane markings. This may be because there are no lane markings or the lane markings cannot be determined due to snow, rain, or other driving conditions.
  - The windshield area in front of the camera or the camera lens is blocked by fog, dirt, damage to the windshield, or other elements that may prevent the camera from detecting lane markings.
- Ready To Assist: The system is enabled and ready to warn of the unintentional lane crossing. The system is ready to assist when the green lane departure warning indicator is illuminated on the instrument cluster.

Lane Crossing Alerts

- A lane crossing alert consists of the following:
  - The amber lane departure warning indicator located on instrument cluster will flash.
  - Three chimes are activated through the infotainment system or three pulses to the left or right side of the seat, if equipped with safety alert seat
- When any of the following conditions occurs, the system will not give alerts:
  - The appropriate turn signal is activated. An activated turn signal is interpreted as an intentional lane crossing.
  - The operator makes an intentional steering maneuver.
  - The operator makes an intentional accelerating maneuver.
  - The operator makes an intentional braking maneuver.

Forward Collision Alert Description and Operation

The forward collision alert system is a convenience feature of the frontview camera module that issues a warning to the driver when a potential collision risk exists. The frontview camera module is located behind the windshield, looking out at the road ahead and detecting vehicles directly ahead. When the system detects a vehicle in the path ahead, the green vehicle ahead indicator is illuminated on the instrument cluster. When approaching another vehicle too rapidly, the collision alert symbol will flash in the head-up display (if equipped) or a series of red collision alert indicators will flash. An audible alert sound will simultaneously sound or the safety alert seat will provide haptic feedback. The visual alert cannot be changed, but the driver can select between audible or haptic alerts in the vehicle personalization menus. The forward collision alert system can also be turned on or off through the vehicle personalization menus. See the vehicle owner manual for more detailed information on vehicle personalization.

Forward collision alert does not provide a warning to help avoid a crash, unless it detects a vehicle. Forward collision alert may not detect a vehicle ahead if the frontview camera module is blocked by dirt, snow, or ice, or if the windshield is damaged. It may also not detect a vehicle on winding or hilly roads, or in conditions that can limit visibility such as fog, rain, or snow, or if the headlamps or windshield are not cleaned or in proper condition. Keep the windshield, headlamps, and frontview camera module clean and in good repair.

Forward collision alert may provide unnecessary alerts for turning vehicles, vehicles in other lanes, objects that are not vehicles, or shadows. These alerts are normal operation and the vehicle does not need service.

The forward collision alert system is made up of the following components:

- Frontview camera module
- Forward collision alert switch
- Instrument cluster
- Collision alert indicators (without UV6)
- Head-up display (with UV6)
- Infotainment system
- Safety alert seat, if equipped

Frontview Camera Module

The frontview camera module detects vehicles in front of the vehicle. The frontview camera module communicates with the instrument cluster via serial data to illuminate the appropriate amber or green vehicle ahead indicator, collision alert symbol will flash in the head-up display, or collision alert indicators. The frontview camera module also communicates via serial data with the infotainment system and memory seat module to request audible or haptic alerts.

Forward Collision Alert Switch

The forward collision alert switch provides an input to the frontview camera module to select the alert timing sensitivity when approaching another vehicle too rapidly. The forward collision alert switch is part of the steering wheel controls switch – left and provides inputs to the body control module (BCM), which then communicates with the frontview camera module via serial data.

The BCM applies a reference voltage and monitors a low signal voltage from the normally open switch. When the switch is pressed, the signal circuit is pulled low through a specific series of resistors, indicating that the system has been requested to change the alert timing sensitivity. The first button press will show the current alert timing setting on the driver information center. With every subsequent button press, the alert timing sensitivity is changed.

Instrument Cluster

The instrument cluster communicates via serial data with the frontview camera module and will illuminate the amber or green vehicle ahead indicator as requested by the frontview camera module. The instrument cluster also controls the head-up display or the collision alert indicators.

Collision Alert Indicators (without UV6)

The collision alert indicators are a series of red LEDs that will flash when approaching another vehicle too rapidly. The collision alert indicators are located in the upper instrument panel area and reflect off the windshield when illuminated.

The collision alert indicators receive power and ground and are discretely controlled by the instrument cluster through a pair of low control circuits. When requested by the frontview camera module, the instrument panel will pulse the low control circuits, flashing the LEDs as a visual alert that another vehicle is being approached too rapidly.

Head-up Display (with UV6)

The instrument cluster controls the head-up display via serial data. The instrument cluster will command the head-up display to flash the collision alert indicator as a visual alert when approaching another vehicle too rapidly as requested by the frontview camera module.

Infotainment System

The infotainment system controls the audible alerts for the forward collision alert system. If the host vehicle is approaching another vehicle too rapidly, the frontview camera module will command the infotainment system issue an audible alert to the driver.

Safety Alert Seat

The memory seat module controls the haptic alert provided by the seats. If the vehicle is approaching another vehicle too quickly, the frontview camera module will command the memory seat module to pulse both sides of the seat.

Rear Vision Camera Description and Operation

The rear vision camera system consists of the rearview camera and the infotainment system.

When the transmission is placed into R, 12 V is applied to the reverse lamp control circuit by the body control module (BCM). The rearview camera monitors this circuit and when 12 V is seen, indicating that the transmission is in R, the rearview camera will activate. The rearview camera receives ignition voltage and a constant ground to power the camera. Video signal + and video signal – circuits carry the video image from the rearview camera to the infotainment system. Additionally, the video signal circuits are shielded to prevent any interference which may lead to a loss of video signal resolution and cause a degraded video image. The shield is grounded by the rearview camera.

The following conditions may cause a degraded rear vision camera image:

- Ice, snow, or mud has built up on the rear vision camera
- Dark conditions
- Extreme light conditions, such as glare from the sun or the headlights of another vehicle
- Damage to the rear of the vehicle
- Extreme high temperatures or extreme temperature changes

Safety Alert Seat Description and Operation

The active safety seat provides a vibration in the driver’s seat bottom cushion to alert the driver of a number of concerns. There are two motors providing the vibration and are located on the left and right sides of the seat cushion. Depending on the alert, either the left, right, or both motors will activate.

The active safety seat is made up of the following components:

- Seat Memory Control Module
- Haptic Seat Motor – Driver Left
- Haptic Seat Motor – Driver Right

Seat Memory Control Module

The seat memory control module receives serial data messages from other modules and provides a voltage output to activate haptic signal motors. The seat memory control module will pulse the left, right, or both motors with the number of pulses requested over serial data. The module monitors the circuits for open, short to ground, and short to voltage conditions and will set DTCs if a problem is detected.

Haptic Seat Motor

The motors are located in the driver’s seat bottom cushion and are positioned on the left and right sides. The motors are connected to ground and receive voltage from the seat memory control module.

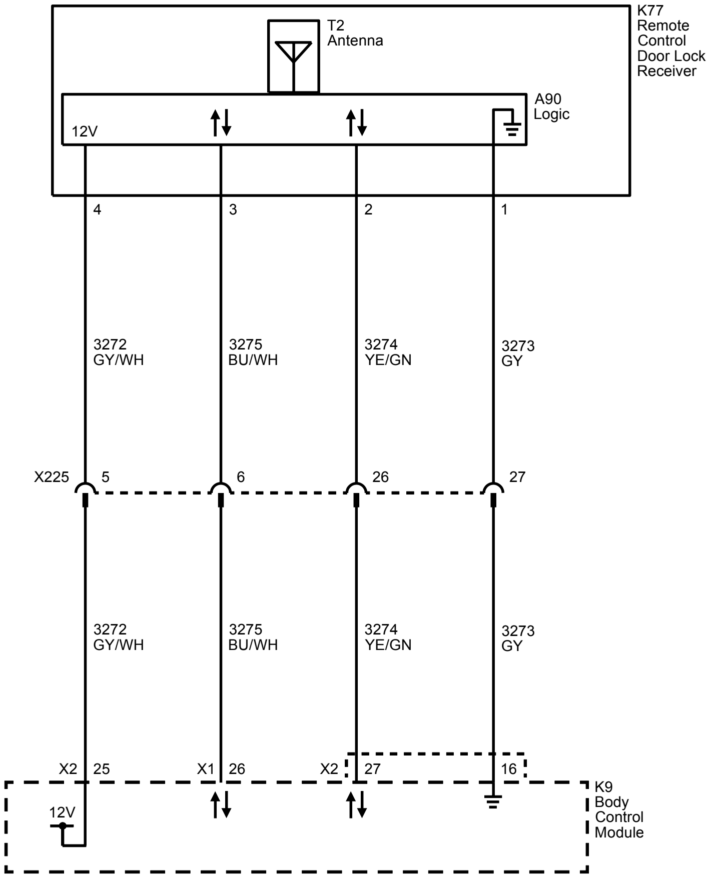
Safety and Security

Remote Functions

Schematic and Routing Diagrams

Remote Function Schematics

Keyless Entry


T2
Antenna
K77
Remote
Control
Door Lock
Receiver
A90
Logic
12V
4
3
2
1
3272
GY/WH
3275
BU/WH
3274
YE/GN
3273
GY
X225
5
6
26
27
3272
GY/WH
3275
BU/WH
3274
YE/GN
3273
GY
X2
25
X1
26
X2
27
16
12V
K9
Body
Control
Module

Description and Operation

Keyless Entry System Description and Operation

The keyless entry system is a vehicle entry device. The keyless entry system is used in conjunction with the door locks to unlock the vehicle. Keyless entry will lock/unlock the vehicle doors or open the rear compartment lid when a corresponding button on the keyless entry transmitter is pressed. This is accomplished by the transmitter sending a radio frequency to the Remote Control Door Lock Receiver antenna that has a direct link to the Body Control Module (BCM). The BCM interprets the signal and activates the requested function or request the appropriate control module to activate the function via a serial data message. A low transmitter battery or radio frequency interference from aftermarket devices, such as 2-way radios, power inverters, computers, etc., may cause a system malfunction. High radio frequency traffic areas, such as gas stations that use pay-at-the-pump radio frequency transponders, may also cause interference that could lead to a malfunction. Keyless entry allows you to operate the following features:

- Door lock/unlock
- Vehicle locator/Panic alarm
- Remote vehicle starting, if equipped

The keyless entry system has the following components:

- Keyless entry transmitters
- Body Control Module
- Remote Control Door Lock Receiver

Keyless Entry Transmitters

Note: When the vehicle key is in the ignition, keyless entry functions from all keyless entry transmitter are disabled.

The keyless entry transmitters are used to perform various entry functions while away from the immediate are of the vehicle. Keyless entry functions may work at up to 20 m (65 ft) away from the vehicle. Ambient conditions may affect the performance of the keyless entry transmitter and reduce the range at which keyless entry functions operate. Up to eight transmitters may be programmed to a single vehicle.

OnStar® Remote Link (if equipped)

A vehicle operator may have the ability to perform some of the keyless entry functions using applications on personal devices such as a smart phone. Unwanted or inadvertent door lock/unlock activation may be requested by the OnStar® Remote Link app. It is possible that a customer may be unaware of account usage, result in an unwanted or phantom door lock/unlock. If normal system diagnosis does results in an inability to verify the customer's concern, contact Technical Assistance Center (TAC).

Body Control Module (BCM)

The BCM is a multifunction module that operates the keyless entry system. When an radio frequency message is received from a keyless entry transmitter, the BCM interprets this signal and performs the specific function, i.e. door lock, door unlock, or vehicle locate.

Remote Control Door Lock Receiver

The Remote Control Door Lock Receiver acts as an antenna for the keyless entry system and communicates with the BCM through a dedicated serial data link. When a button is pressed on a keyless entry transmitter, the Remote Control Door Lock Receiver receives this signal and sends the request to the BCM. The BCM interprets the signal and performs the specific function, i.e. door lock, door unlock, or vehicle locate.

Unlock Doors

Momentarily press the transmitter UNLOCK button in order to perform the following functions:

- Unlock only the driver door or all doors and liftgate (if equipped); this is customized through the DIC.
- Illuminate the interior lamps for a determined length of time or until the ignition is turned ON.
- Flash the exterior lights; this is customized through the DIC.
- Disarm the content theft deterrent system, if equipped.
- Deactivate the content theft deterrent system when in the alarm mode.

Lock All Doors

Press the transmitter LOCK button to perform the following functions:

- Lock all vehicle doors.
- Immediately turn OFF the interior lamps.
- Flash the exterior lights and/or sound the horn; this is customized through the DIC.
- Arm the content theft deterrent system.

Vehicle Locator/Panic Alarm

A single press of the panic button performs the following functions. Some functions may be dependent on personalization settings:

- Pulse the horn three times.
- Flash the exterior lamps three times.

A press and hold of the panic button performs the following functions:

- Illuminate the interior lamps.

- Pulse the horn and flash the exterior lamps for 30 seconds or until the following conditions occur:
    - The panic button is pressed.
    - The ignition switch is turned to the RUN position with a valid key.

Remote Vehicle Start, if equipped

The remote vehicle start function allows engine starting while not in the vehicle. It also allows the vehicle HVAC system and other vehicle systems to enable, providing a comfortable vehicle upon entry. The remote vehicle start sequence begins by pressing and releasing the lock button and then pressing and holding the remote vehicle start buttons on the keyless entry transmitter. The turn signal lamps will illuminate to indicate the vehicle has received the remote start request. Each time an remote vehicle start is performed, the vehicle doors are locked, however they may then be unlocked/locked with the transmitter or vehicle key at any time. Once activated, the engine is allowed to run for 10 minutes. The remote vehicle start time may be extended by an additional 10 minutes by again pressing and releasing the lock button and then pressing and holding the remote vehicle start buttons on the transmitter. This feature is called a remote vehicle start continue and allows a maximum of 20 minutes of engine running. If the remote vehicle start continue is performed at seven minutes into the initial 10 minute time-out, a total of 17 minutes of engine running would occur. The remote vehicle start event may be suspended at any time by pressing only the remote vehicle start button on the transmitter or by entering the vehicle and pressing the hazard lamp switch.

In between ignition cycles, only two remote vehicle start events may occur or be attempted. Once two events or attempts have been made, future remote vehicle start events will be suspended until the vehicle is started using the ignition.

Enable/Disable Remote Vehicle Start

Using the driver information center, remote vehicle start may be enabled or disabled as a part of vehicle personalization. Refer to the vehicle owners manual for more information.

Hood Ajar Switch

The hood switch provides status of the hood to the BCM for remote vehicle start purposes. The switch is integrated into the hood latch assembly.

Remote Vehicle Start Circuit Description

The BCM receives a signal from the keyless entry transmitter indicating a remote vehicle start request. A message is then sent to the BCM which determines if a crank request message will be sent to the ECM to allow engine starting. To determine if conditions are correct for an remote vehicle start event, the BCM will ensure the following conditions are met:

- A valid hood ajar switch closed signal is present.
- The doors are locked.
- The hazard switch is OFF.
- The vehicle power mode is correct.
- No content theft deterrent alarm triggers are present.

When the BCM determines all conditions meet those required for an remote vehicle start event, a message is sent via serial data to the ECM. The ECM relies on the remote vehicle start message from BCM to enable remote vehicle start when the crank request signal is received. If the ECM does not receive a valid remote vehicle start message, it will not attempt to start the engine. While the ECM is in remote vehicle start mode it will suspend engine operation if any of the following additional conditions occur:

- Vehicle speed is greater than 0.
- Transmission is not in PARK.
- Excessive engine coolant temperature
- Low oil pressure
- The malfunction indicator lamp (MIL) is commanded ON.
- Engine crank time is greater than 30 seconds.
- Excessive engine speed
- Accelerator pedal position too high
- Remote start timer equals 0.
- Immobilizer system indicates tamper

Keyless Entry Personalization

Vehicle lock/unlock functions and remote vehicle start remote vehicle start settings may be personalized. For functional descriptions and personalization instructions, refer to the vehicle owners manual.

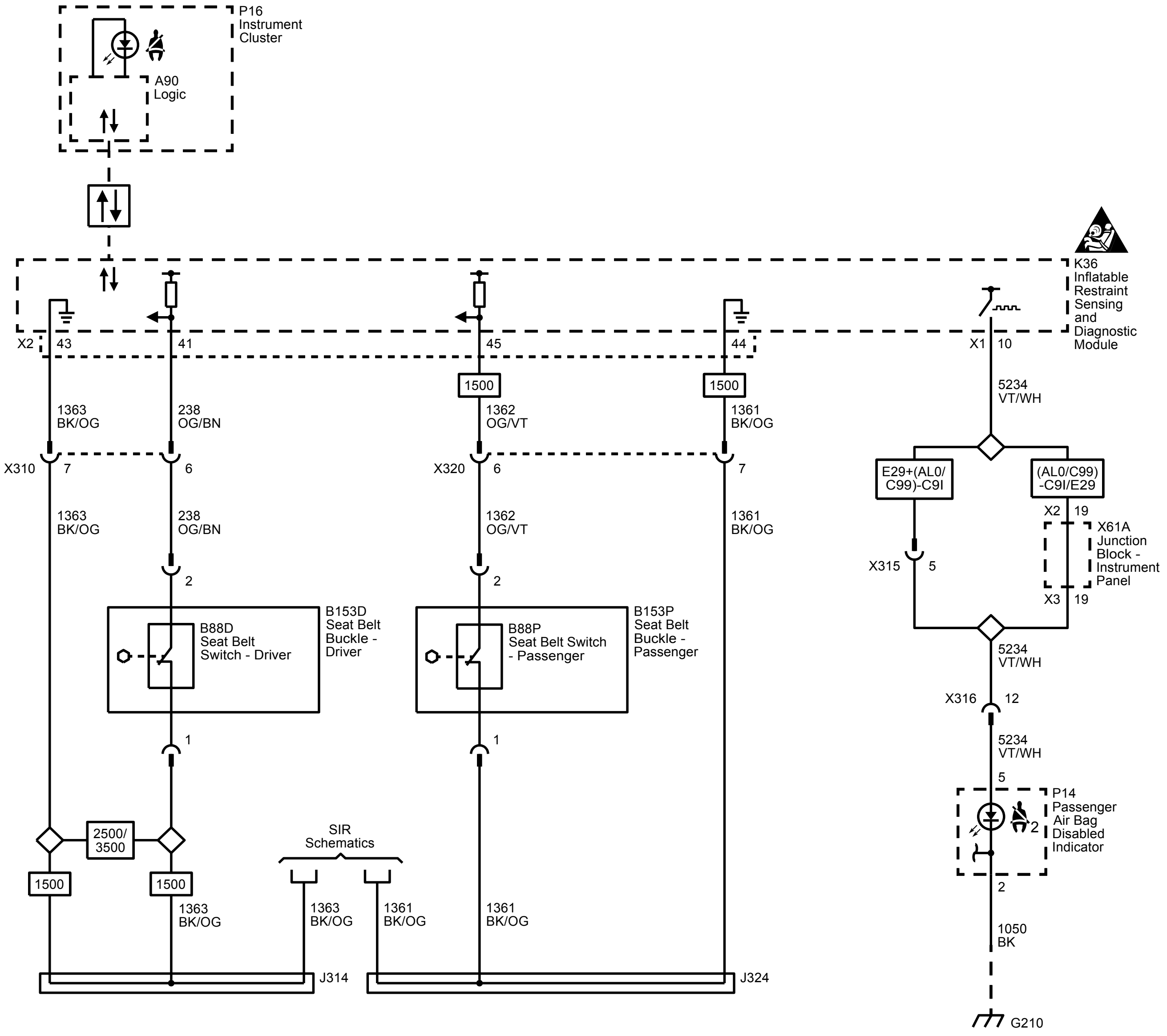
Safety and Security

Seat Belts

Schematic and Routing Diagrams

Seat Belt Schematics

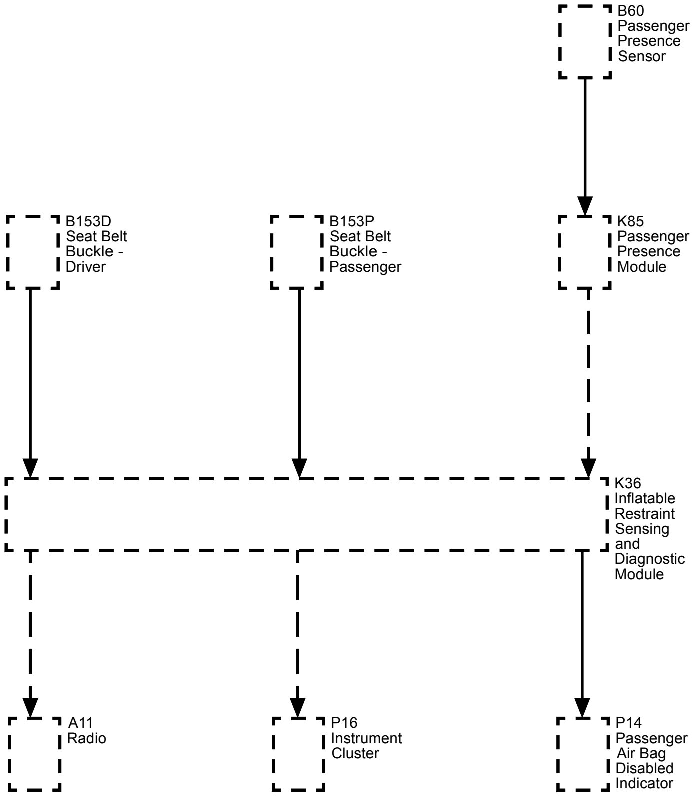
Seat Belts


P16 Instrument Cluster
A90 Logic
K36 Inflatable Restraint Sensing and Diagnostic Module
X2
43
41
45
44
X1
10
1500
1500
1363 BK/OG
238 OG/BN
1362 OG/VT
1361 BK/OG
5234 VT/WH
X310
7
6
X320
6
7
E29+(AL0/ C99)-C9I
(AL0/C99) -C9I/E29
1363 BK/OG
238 OG/BN
1362 OG/VT
1361 BK/OG
X2
19
X61A Junction Block - Instrument Panel
X315
5
X3
19
2
2
B88D Seat Belt Switch - Driver
B153D Seat Belt Buckle - Driver
B88P Seat Belt Switch - Passenger
B153P Seat Belt Buckle - Passenger
5234 VT/WH
X316
12
1
1
5234 VT/WH
5
P14 Passenger Air Bag Disabled Indicator
2
2500/ 3500
SIR Schematics
1500
1500
1363 BK/OG
1363 BK/OG
1361 BK/OG
1361 BK/OG
2
1050 BK
J314
J324
G210

Description and Operation

Seat Belt System Description and Operation

Seat Belt with P14 Block Diagram


B60
Passenger
Presence
Sensor
B153D
Seat Belt
Buckle -
Driver
B153P
Seat Belt
Buckle -
Passenger
K85
Passenger
Presence
Module
K36
Inflatable
Restraint
Sensing
and
Diagnostic
Module
A11
Radio
P16
Instrument
Cluster
P14
Passenger
Air Bag
Disabled
Indicator

Note: Not all items shown in block diagram are available in this publication

Restraint System

Note: If the vehicle has been in a collision, refer to CELL Link Error - Link target cell (cell ID 69000) is invalid for this publication.

The vehicle has front and rear seat belts that are the primary means of occupant restraint. Seat belts help to keep the occupants inside the passenger compartment and to gradually reduce the impact forces during the following events:

- Frontal impact type crashes
- Rear impact type crashes
- Side impact type crashes
- Roll-over type crashes

All seat belt retractors have emergency locks. The retractors remain unlocked during normal operation and under normal driving conditions. The retractors remain unlocked during normal conditions in order to allow free movement of the upper body of each occupant. A pendulum locks the seat belt webbing into position. The pendulum causes a locking bar to engage a cog on the spool of the retractor mechanism when the following conditions occur:

- A rapid extraction of the seat belt webbing from the retractor
- An abrupt change in vehicle speed
- An abrupt change in vehicle direction
- Operation of the vehicle on a steep upgrade

- Operation of the vehicle on a downgrade

The seat belts have an automatic locking (cinch) feature. The cinch feature is activated when the seat belt webbing is completely extended from the retractor. The cinch feature prevents the webbing from extending beyond the position from which it is allowed to retract. Use of the cinch feature is recommended for securing a child seat. The cinch feature may be cancelled by allowing the webbing to wind back completely into the retractor. After the cinch feature is cancelled, the webbing is unlocked. After the cinch feature is cancelled, the webbing will extend from the retractor. This vehicle is also equipped with a supplemental inflatable restraint (SIR) system. Refer to Supplemental Inflatable Restraint System Description and Operation

Front Seat Belt System

The front seat belt system includes a driver and passenger seat belt pretensioner retractor. Both front seat belt pretensioners includes a seat belt switch in the seat buckle which controls a reminder lamp and a tone alarm.

Note: The front passenger seat is equipped with a passenger presence detection sensor, which detects an occupant. If the passenger presence detection sensor detects an empty front passenger seat, then the passenger fasten safety belt indicator will be disabled.

- When the driver seat belt is buckled and the ignition switch is turned ON, the following events will occur:
  - The tone alarm will not operate.
  - The reminder lamp will not operate.
- When the driver seat belt is not buckled and the ignition switch is in the ON position, the following events will occur:
  - The tone alarm will operate for 4–8 seconds and then go OFF.
  - The fasten safety belt indicator will turn ON for 20 seconds, until the driver seat belt is buckled.

Rear Seat Belt System

The Rear Seat Belt System includes the following components:

- The rear seat belt retractor is located at the wheelhouse panel and attached to the floor panel by the rear seat shoulder belt retractor bracket.
- The rear seat belt buckles and the center seat belt buckle are attached to each seat.

Child Seat Restraint System

Warning: A child in a rear-facing child restraint can be seriously injured if the right-front passengers air bag inflates. This is because the back of a rear-facing child restraint would be very close to the inflating air bag. NEVER use a rear-facing child restraint in this vehicle. If a forward-facing child restraint is suitable for your child, ALWAYS move the front passenger seat as far back as it will go and then install the child restraint. Be sure the child restraint position does not conflict with any additional requirements provided by the manufacturer. For more information, refer to the vehicle owners manual and the instruction that came with the child restraint.

A child in a rear-facing child restraint can be seriously injured if the right-front passengers air bag inflates. This is because the back of a rear-facing child restraint would be very close to the inflating air bag. NEVER use a rear-facing child restraint in this vehicle. If a forward-facing child restraint is suitable for your child, ALWAYS move the front passenger seat as far back as it will go and then install the child restraint. Be sure the child restraint position does not conflict with any additional requirements provided by the manufacturer. For more information, refer to the vehicle owners manual and the instruction that came with the child restraint.

The child seat may only be used in a forward facing seating location. The child seat should be installed and secured according to the manufacturer's directions. If the child seat has a top strap, the seat will need to be anchored. Passengers should not be allowed to sit at locations where the seat belts are being used to secure the child seat.

All vehicles are equipped with a dual-mode type retractor with emergency and automatic locking features. The automatic locking feature is for restraint of a child seat. The child seat can be secured by pulling the seat belt all the way out to lock it. Then tighten the seat belt around the child seat.

If a child seat is to be used in the second seat position, a special dealer-installed anchor must be used in order to anchor the child seat top strap. This only applies to the seats designed with the top strap provision and for the vehicles sold in Canada. In order to ensure the correct top strap angle, the child seat is only to be used at the seating position for which the top strap anchor is installed.

Fasten Safety Belt Indicators

There is a fasten safety belt indicator for this vehicle. The driver fasten safety belt reminder is displayed in the instrument cluster. The fasten safety belt indicator may only be ON during RUN. The fasten safety belt indicator illuminates under the following conditions:

- During the bulb check
- The inflatable restraint sensing and diagnostic module (SDM) sends the status of the driver seat belt to the instrument cluster via serial data. If any of the seat belts are unfastened, the instrument cluster will send a message requesting a chime sound to be turned ON after a bulb check.

Safety and Security

Supplemental Inflatable Restraints

Description and Operation

Supplemental Inflatable Restraint System Description and Operation

SIR System Overview

The supplemental inflatable restraint (SIR) system supplements the protection offered by the seat belts. The SIR system contains an Inflatable Restraint Sensing and Diagnostic Module (SDM), air bags, seat belt pretensioners (anchor and retractor), and impact sensors. The Inflatable Restraint Sensing and Diagnostic Module determines the severity of a collision with the assistance of impact sensors located at strategic points on the vehicle. When the Inflatable Restraint Sensing and Diagnostic Module detects a collision, the Inflatable Restraint Sensing and Diagnostic Module will process the information provided by the sensors to further support air bag or pretensioner deployment. The Inflatable Restraint Sensing and Diagnostic Module will deploy the air bags and pretensioners if it detects a collision of sufficient force. If the force of the impact is not sufficient to warrant air bag deployment, the Inflatable Restraint Sensing and Diagnostic Module may still deploy the seat belt pretensioners. The Inflatable Restraint Sensing and Diagnostic Module contains a sensing device that converts vehicle velocity changes to an electrical signal. The Inflatable Restraint Sensing and Diagnostic Module compares these signals to values stored in memory. If the signals exceed a stored value, the SDM will determine the severity of the impact and either cause current to flow through the frontal deployment loops deploying the frontal air bags and pretensioners, or it will deploy the pretensioners only. The Inflatable Restraint Sensing and Diagnostic Module continuously monitors the deployment loops for malfunctions and illuminates the SIR system AIR BAG indicator if a fault is detected. The Inflatable Restraint Sensing and Diagnostic Module performs continuous diagnostic monitoring of the SIR system electrical components. Upon detection of a circuit malfunction, the Inflatable Restraint Sensing and Diagnostic Module will set a DTC and inform the driver by illuminating the SIR system AIR BAG indicator. The steering column and knee bolsters are designed to absorb energy and compress during frontal collisions in order to limit leg movement and decrease the chance of injury to the driver and passenger.

SIR System AIR BAG Indicator

The SIR system AIR BAG indicator, located in the instrument cluster, is used to notify the driver of SIR system malfunctions and to verify that the Inflatable Restraint Sensing and Diagnostic Module (SDM) is communicating with the instrument cluster. When the ignition is turned ON, the Inflatable Restraint Sensing and Diagnostic Module is supplied with ignition positive voltage. The instrument cluster will momentarily turn on the SIR system AIR BAG indicator. While the indicator is on, the Inflatable Restraint Sensing and Diagnostic Module conducts tests on all SIR system components and circuits. If no malfunctions are detected the Inflatable Restraint Sensing and Diagnostic Module will communicate with the instrument cluster through the serial data circuit and command the SIR system AIR BAG indicator OFF. The Inflatable Restraint Sensing and Diagnostic Module provides continuous monitoring of the air bag circuits by conducting a sequence of checks. If a malfunction is detected the Inflatable Restraint Sensing and Diagnostic Module will store a diagnostic trouble code (DTC) and command the instrument cluster to illuminate the SIR system AIR BAG indicator via serial data. The presence of a SIR system malfunction could result in non-deployment of the air bags or deployment in conditions less severe than intended. The SIR system AIR BAG indicator will remain ON until the malfunction has been repaired.

Inflatable Restraint Sensing and Diagnostic Module (SDM)

The Inflatable Restraint Sensing and Diagnostic Module (SDM) is a microprocessor and the control center for the supplemental inflatable restraint (SIR) system. The Inflatable Restraint Sensing and Diagnostic Module contains internal sensors along with external impact sensors, mounted at strategic locations on the vehicle. In the event of a collision, the Inflatable Restraint Sensing and Diagnostic Module compares the signals from the internal and external impact sensors to a value stored in memory. When the generated signals exceed the stored value, the Inflatable Restraint Sensing and Diagnostic Module will cause current to flow through the appropriate deployment loops to deploy the air bags. The Inflatable Restraint Sensing and Diagnostic Module records the SIR system status when a deployment occurs and illuminates the SIR system AIR BAG indicator located in the instrument cluster. The Inflatable Restraint Sensing and Diagnostic Module performs continuous diagnostic monitoring of the SIR system electrical components and circuitry when the ignition is turned ON. If the Inflatable Restraint Sensing and Diagnostic Module detects a malfunction, a DTC will be stored and the Inflatable Restraint Sensing and Diagnostic Module will request the instrument cluster to illuminate the SIR system AIR BAG indicator, notifying the driver that a malfunction exists. In the event that ignition positive voltage is lost during a collision, the Inflatable Restraint Sensing and Diagnostic Module maintains a 23-volt loop reserve for deployment of the air bags. It is important when disabling the SIR system for servicing or rescue operations to allow the 23-volt loop reserve to dissipate, which could take up to 1 minute.

Air Bags

This vehicle contains up to 6 air bags. The 6 air bags are located in the steering wheel (dual inflators), instrument panel (passenger side) (dual inflators), driver side seat, passenger side seat, left roof rail, and right roof rail. To view the locations of the air bags refer to Master Electrical Component List. Air bags contain a housing, inflatable air bag, two initiating devices (if dual air bags), canister of gas generating material and, in some cases, stored compressed gas. The deployment loops supply current to deploy the air bags. The driver steering wheel and passenger instrument panel air bags have two stages of deployment, which varies the amount of restraint to the occupant according to the collision severity. For moderate frontal collisions the air bags deploy at less than full deployment which consists of stage 1 of the air bag. For more severe frontal collisions a full deployment is initiated which consists of stage 1 and stage 2 of the air bag. The current passing through the air bags ignite the material in the canister producing a rapid generation of gas and is some cases, the release of compressed gas. The gas produced from this reaction rapidly inflates the air bag. Once the air bag is inflated it quickly deflates through the air bag vent holes and/or the bag fabric. A shorting bar (if equipped) is located in the connector.

Seat Belt Pretensioners (Anchor and Retractor)

The seat belt pretensioners (driver and passenger) consist of a housing, seat belt retractor (located in the B-pillar), seat belt anchor (located on the floor), seat belt webbing, an initiator, and a canister of gas generating materials. To view the locations of the seat belt pretentioners refer to Master Electrical Component List. The initiator is part of the seat belt pretensioner deployment loop. When the vehicle is involved in a collision of sufficient force, the Inflatable Restraint Sensing and Diagnostic Module causes current to flow through the seat belt deployment loops to the initiator. Current passing through the initiator ignites the material in the canister producing a rapid generation of gas. The gas produced from this reaction deploys the seat belt pretensioners which removes all of the slack in the seat belts. Depending on the severity of the collision, the seat belt pretensioners may deploy without the frontal air bags deploying, or they will deploy immediately before the frontal air bags deploy. A shorting bar (if equipped) is located in the connector.

Impact Sensors

There are up to 6 impact sensors, they are located in the front of the vehicle (2, left and right or 1, center), in the front doors (2, left and right), and on the C-pillar (2, left and right). To view the locations of the impact sensors refer to Master Electrical Component List. The impact sensors contain a sensing device which monitors vehicle acceleration and velocity changes to detect side collisions that are severe enough to warrant air bag deployment. The impact sensors are not part of the deployment loop, but instead provide input to the Inflatable Restraint Sensing and Diagnostic Module (SDM). The Inflatable Restraint Sensing and Diagnostic Module contains a microprocessor that performs calculations using the measured accelerations and compares these calculations to a value stored in memory. When the generated calculations exceed the stored value, the Inflatable Restraint Sensing and Diagnostic Module will cause current to flow through the deployment loops deploying the appropriate air bags.

Passenger Presence Detection System and Passenger Air Bag Indicator

Note: The passenger presence system is a calibrated unit. When replacing the assembly all parts in the service kit must remain together. Do not mix any of the old parts with the new parts. After repairing or replacing the passenger presence system, the Preload test must be performed in order to function properly.

The passenger presence system is used to monitor the weight of an occupant in the front passenger seat and communicate the status to the inflatable restraint sensing and diagnostic module (SDM) whether to enable or suppress the deployment of the passenger instrument panel air bag. The passenger presence system consist of a passenger presence module, silicone filled sensor pad, passenger seat belt tension sensor, wiring harness, and PASSENGER AIR BAG ON/OFF indicators. The silicone filled sensor pad is located under the passenger seat foam cushion and is connected by a hose clamped to the passenger presence module. The weight of the occupant sitting in the front passenger seat is measured as a pressure change within the bladder by the passenger presence module. If the pressure from the occupants weight is less than a specified value, the passenger presence module will send a suppress signal to the inflatable restraint sensing and diagnostic module to disable the passenger instrument panel air bag. If the pressure from the occupant's weight is higher than a specified value, the passenger presence module will send an enable signal to the inflatable restraint sensing and diagnostic module to enable the passenger instrument panel air bag. The inflatable restraint sensing and diagnostic module will notify the customer of the enable/disable status by turning ON one of the PASSENGER AIR BAG ON/OFF. The passenger presence system monitors itself for faults and will displays diagnostic trouble codes (DTCs) on the scan tool. When a fault is detected, the passenger presence module sends out a message to the inflatable restraint sensing and diagnostic module. The inflatable restraint sensing and diagnostic module responds by sending a command message to the instrument cluster to illuminate the SIR system AIR BAG indicator.

Seat Belt Tension Sensor

The seat belt tension sensor is a sensor mounted on the passenger seat belt retractor and provides an input to the passenger presence module. When an infant car seat is properly restrained on the front passenger seat, the seat belt is tightly secured through the car seat. The seat belt pulls on the tension sensor and changes the voltage signal to the passenger presence module. If the shoulder portion of a passenger belt is pulled out all the way, the child restraint locking feature may be engaged and may disable the passenger air bag.

Seat Position Sensors (If Equipped)

The seat position sensor is used to determine the proximity of the front driver or passenger seat position with respect to the front air bag. There are two states of seat position, forward and rearward. The seat position sensor interfaces with the inflatable restraint sensing and diagnostic module (SDM) and allows the inflatable restraint sensing and diagnostic module to disable stage 2 of the air bag for a front seat that is forward of the forward/rearward point in seat track. The seat position sensor provides two current ranges, one range for the forward seat position and one for rearward seat position. When the inflatable restraint sensing and diagnostic module receives input from a seat position sensor that the seat is rearward, and the inflatable restraint sensing and diagnostic module will not disable stage 2 deployment. When the seat is forward, the inflatable restraint sensing and diagnostic module will disable stage 2 deployment. The inflatable restraint sensing and diagnostic module monitors the seat position sensor circuit and if a fault is detected, the inflatable restraint sensing and diagnostic module will set DTC B0079 or B0080 and disable stage 2 frontal deployment.

Passenger Air Bag Disable Switch (If Equipped)

The passenger air bag disable switch is used to turn the passenger frontal air bag on or off. The customer can decide to disable the passenger air bag by turning this switch on. When the inflatable restraint sensing and diagnostic module sees a ground circuit from this switch the passenger air bag is turned off. The vehicle has a PASSENGER AIR BAG ON/OFF indicator to tell the customer when the passenger air bag is on or off based on the disable switch position.

Rollover Protection Disable Switch (If Equipped)

If the vehicle has a Rollover Disable switch that you can use to manually turn on or off the deployment of associated airbags and pretensioners when the algorithm has determined that a rollover event is likely and/or imminent. This only prevents the deployment of calibrated airbags and pretensioners in the case of a rollover event; This does not affect deployments due to front, side or rear events.

Upon powering up the vehicle, the rollover enabled airbags and pretensioners are enabled. If it is desired to disable deployments due to a rollover event, the ignition switch must be in the RUN power mode without the engine running. The Rollover Disabled Switch must be pressed and held for several seconds until a confirmation "beep" is heard. The change of state is confirmed as well by the illumination of the Rollover Disable Icon. The engine can then be started. Do not cycle ignition back to OFF before starting the engine, for this will re-enable these airbags.. The rollover disable feature will remain enabled until the ignition is turned off or the rollover disable switch is pressed again to re-enable the associated airbags and pretensioners.

Seat Belt Indicators

The seat belt indicators are controlled through the Inflatable Restraint Sensing and Diagnostic Module (SDM). For further information on seat belt indicators refer to Seat Belt System Description and Operation.

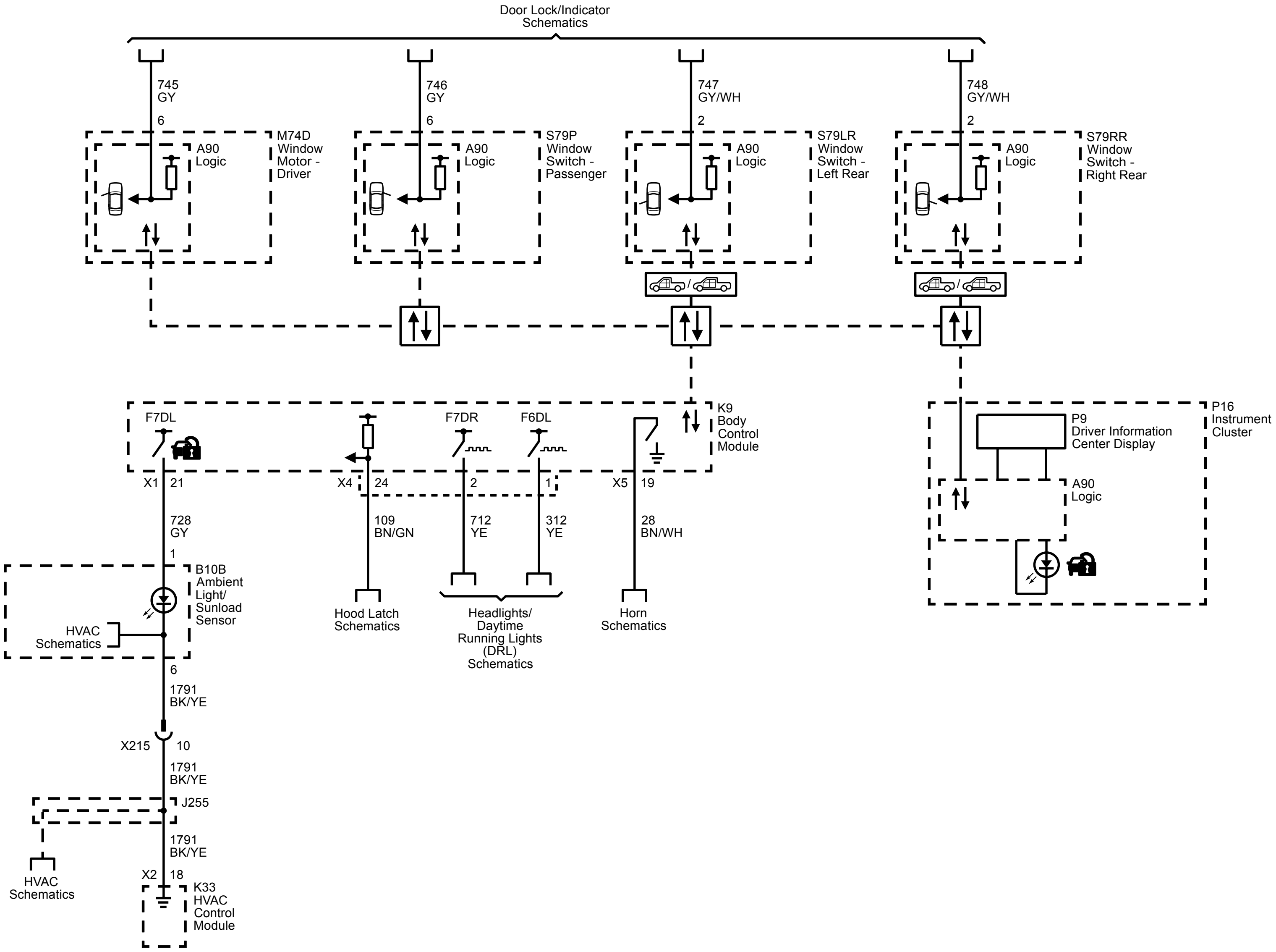
Safety and Security

Theft Deterrent

Schematic and Routing Diagrams

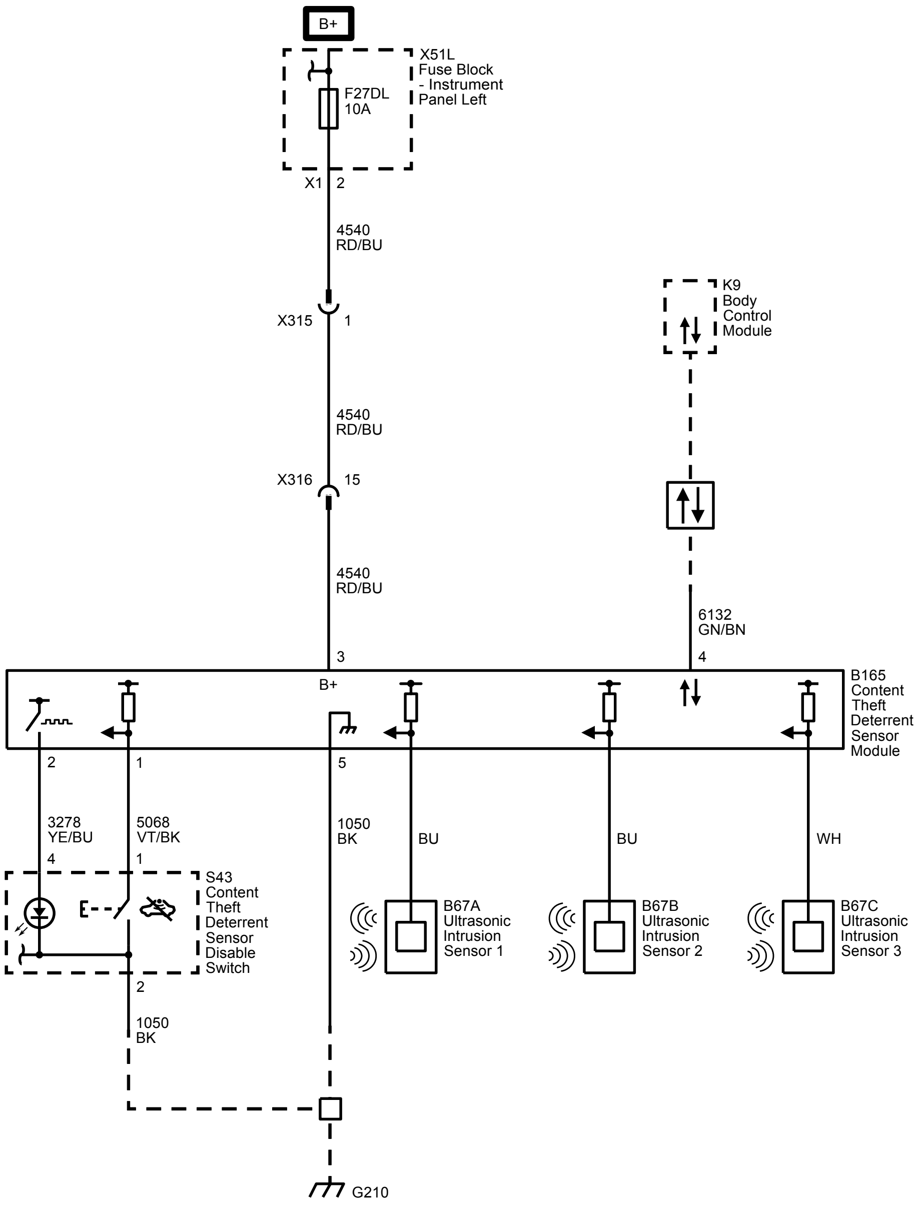
Theft Deterrent System Schematics

Theft Deterrent System


Door Lock/Indicator Schematics
745 GY
6
746 GY
6
747 GY/WH
2
748 GY/WH
2
A90 Logic
M74D Window Motor - Driver
A90 Logic
S79P Window Switch - Passenger
A90 Logic
S79LR Window Switch - Left Rear
A90 Logic
S79RR Window Switch - Right Rear
F7DL
F7DR
F6DL
K9 Body Control Module
X1 21
X4 24
2
1
X5 19
728 GY
109 BN/GN
712 YE
312 YE
28 BN/WH
Hood Latch Schematics
Headlights/ Daytime Running Lights (DRL) Schematics
Horn Schematics
1
B10B Ambient Light/ Sunload Sensor
HVAC Schematics
6
1791 BK/YE
X215 10
1791 BK/YE
J255
1791 BK/YE
HVAC Schematics
X2 18
K33 HVAC Control Module
P16 Instrument Cluster
P9 Driver Information Center Display
A90 Logic

Inclination and Intrusion Sensing and Alarm (UTU and UTV)

LOC
DESC


B+
X51L
Fuse Block
- Instrument
Panel Left
F27DL
10A
X1
2
4540
RD/BU
X315
1
4540
RD/BU
X316
15
4540
RD/BU
K9
Body
Control
Module
6132
GN/BN
3
4
B+
B165
Content
Theft
Deterrent
Sensor
Module
2
1
5
3278
YE/BU
5068
VT/BK
1050
BK
BU
BU
WH
4
1
S43
Content
Theft
Deterrent
Sensor
Disable
Switch
B67A
Ultrasonic
Intrusion
Sensor 1
B67B
Ultrasonic
Intrusion
Sensor 2
B67C
Ultrasonic
Intrusion
Sensor 3
2
1050
BK
G210

Description and Operation

Theft Systems Description and Operation

When armed, the content theft deterrent system is designed to deter vehicle content theft by pulsing the horns and exterior lamps for approximately 30 s when an unauthorized vehicle entry is detected. However, the content theft deterrent system does not affect engine starting.

An unauthorized entry can be any of the following with the content theft deterrent system armed:

- Unauthorized entry into the underhood area
- Unauthorized entry into the rear compartment
- When any door is opened without using the UNLOCK command from a keyless entry transmitter
- After a battery reconnect, if the battery was disconnected with the content theft deterrent system armed

The components of the content theft deterrent system are:

- Body control module (BCM)
- Keyless entry control module (RPO ATH)
- Remote control door lock receiver
- Security indicator
- Door ajar switches
- Rear compartment ajar switch
- Hood ajar switch

Arming the Content Theft Deterrent System

Use the following procedure in order to arm the system:

1. Place the shift lever in P (park).
2. Turn OFF the ignition.
3. Open any door.

   Note: The system is not armed if the doors are locked manually; the power door lock switch or remote keyless entry transmitter must be used to arm the content theft deterrent system.
4. Lock the doors with the power door lock switch or by pressing the LOCK button on the transmitter. The system is in standby mode and will not start the arming timer until all doors are closed.
5. The system will begin the arm sequence immediately after the last door is closed. If the keyless entry transmitter is used the arm the system after the vehicle doors are closed, the arm sequence will begin as soon as the LOCK command is received by the transmitter.
6. Pressing the LOCK button on the keyless entry transmitter a second time will bypass the delayed arming function and force the system to arm.

Locking the Vehicle Without Arming the Content Theft Deterrent System

Locking the vehicle may be accomplished without arming the content theft deterrent system. Use of the manual door locks will lock the vehicle, but will not arm the content theft deterrent system.

Disarming an Armed System/Silencing an Alarm

If system arming has been requested by the power door lock switch or the keyless entry transmitter, it must be disarmed.

Note: Disconnecting the battery or removing fuses does not disable the arm or alarm modes, since the BCM stores the content theft deterrent mode status in memory.

- To disarm the content theft deterrent system in standby mode, perform one of the following:
  - Press the UNLOCK button on the keyless entry transmitter.
  - Approach the vehicle with a valid keyless entry transmitter and pull the vehicle door handle (RPO ATH).
  - Insert a valid key into the ignition and switch to the ON position.
- To disarm the content theft deterrent system in the armed mode (non-event) or when activated (during an alarm event):
  - Press the UNLOCK button on the keyless entry transmitter.
  - Insert a valid key into the ignition and switch to the ON position

Content Theft Deterrent Circuit Description

The following is a description of each component used in the content theft deterrent system:

Body Control Module

The content theft deterrent system is an internal function of the BCM which utilizes serial data and various switch inputs information to perform content theft deterrent functions. When the BCM detects an unauthorized entry, it activates the horns and exterior lamps. The BCM has 4 basic modes (disarmed, standby, armed, and alarm) for operating the content theft deterrent system. The different modes are described below.

1. The BCM has the content theft deterrent system in a disarmed mode until the following conditions are detected:
   - Ignition key turned to the OFF position.
   - Doors locked by either the power door lock switch or the LOCK button on the transmitter.

2. The BCM enters the standby mode when the above conditions are detected. If a door was already opened when the arm mode was requested, the standby mode does not start the timer until the last door is closed.
3. When the last door is closed, a 15 s timer is activated. Once the timer has expired, the BCM enters the armed mode. After this delay, any unauthorized entry will activate the alarm mode.
4. When the BCM detects an unauthorized entry, the BCM enters the alarm mode. The BCM activates the horns and exterior lamps for 30 s. This is followed by a three minute time-out with the horn no longer active. If no new intrusions are detected after the time-out, the horn is not active. The system must be disarmed or the intrusion condition removed after the time-out for the system to exit alarm mode.

Keyless Entry Control Module (RPO ATH)

The passive keyless entry system can arm and disarm the content theft deterrent system. When a valid keyless entry transmitter is detected while attempting to passively access the vehicle, the keyless entry module will send a message via serial data to disarm the content theft deterrent system.

Remote Control Door Lock Receiver

The keyless entry system can arm and disarm the content theft deterrent system. When the remote control door lock receiver receives a door lock or unlock signal from the transmitter, the remote control door lock receiver sends a message to the BCM via serial data to perform the appropriate arm/disarm functions.

Security Indicator

The security LED is illuminated on the upper instrument panel by the BCM. The content theft deterrent system uses the security LED to inform the driver of system status prior to arming.

Door Ajar Switches

The content theft deterrent system uses the door ajar switches as a status indicator to activate the alarm. The door ajar switches are monitored by the body control module via a discrete input from each door ajar switch. If the BCM receives a signal indicating a door is opened when the content theft deterrent system is armed, the BCM activates the alarm.

Hood Ajar Switch

The content theft deterrent system uses the hood ajar switch as a status indicator to activate the alarm. The BCM monitors the hood ajar switch via a discrete input from the switch. If the BCM receives a signal indicating the hood has been opened when the content theft deterrent system is armed, the BCM activates the alarm.

Rear Compartment Ajar Switch

The content theft deterrent system uses the rear compartment ajar switch as a status indicator to activate the alarm. The BCM monitors the rear compartment ajar switch via a discrete input from the switch. If the BCM receives a signal indicating the rear compartment has been opened when content theft deterrent system is armed, the BCM activates the alarm.

Inputs

The BCM monitors the following inputs for content theft deterrent:

- The door ajar switches
- The keyless entry transmitter LOCK/UNLOCK buttons; a message from the remote control door lock receiver
- The BCM uses the immobilizer status for disarming the system or silencing an alarm when the correct vehicle key is used to start the vehicle
- The rear compartment ajar switch
- The hood ajar switch

Outputs

The BCM controls the following for content theft deterrent:

- The horn relay
- The exterior lamps

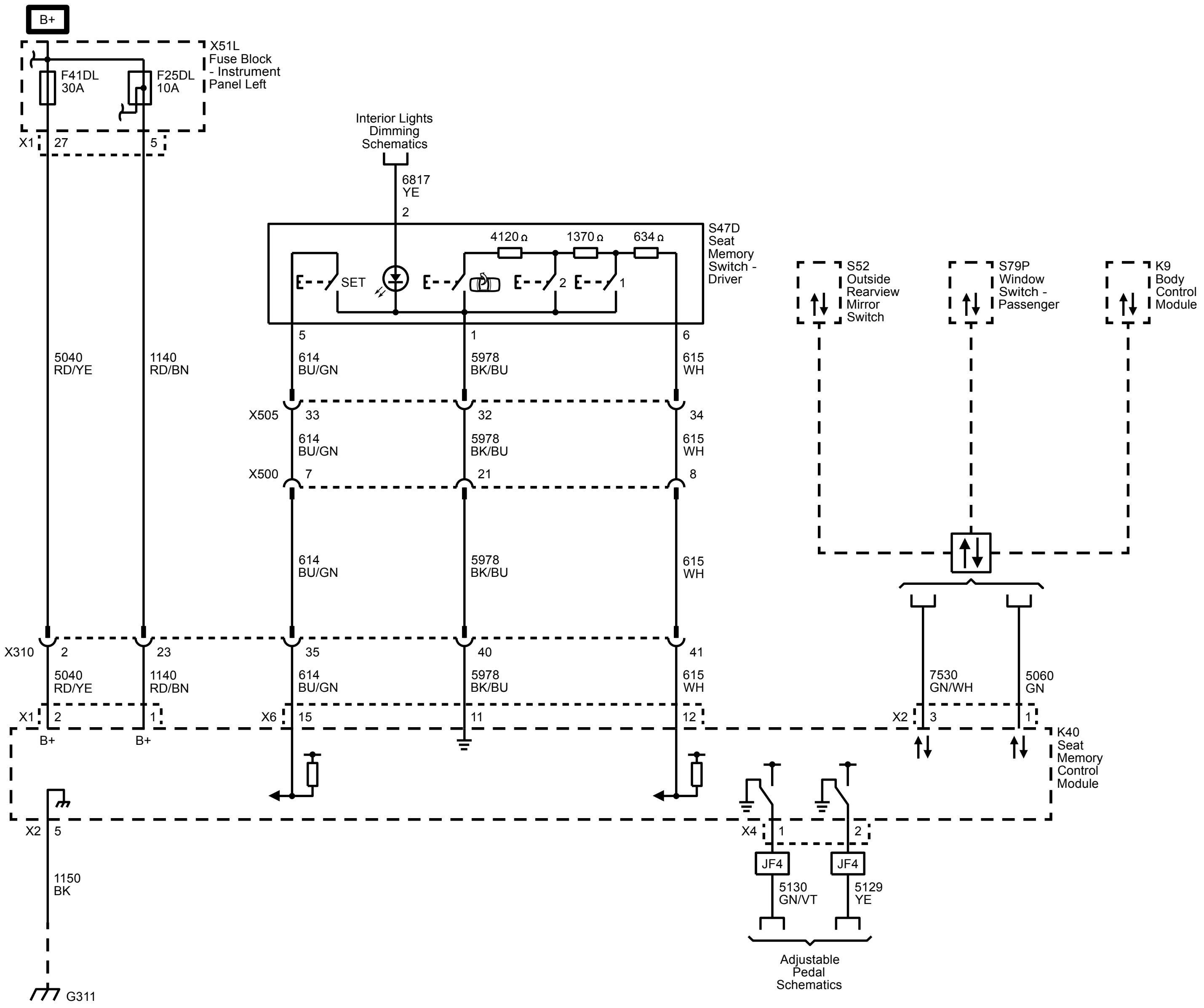
Seats

Power Seats

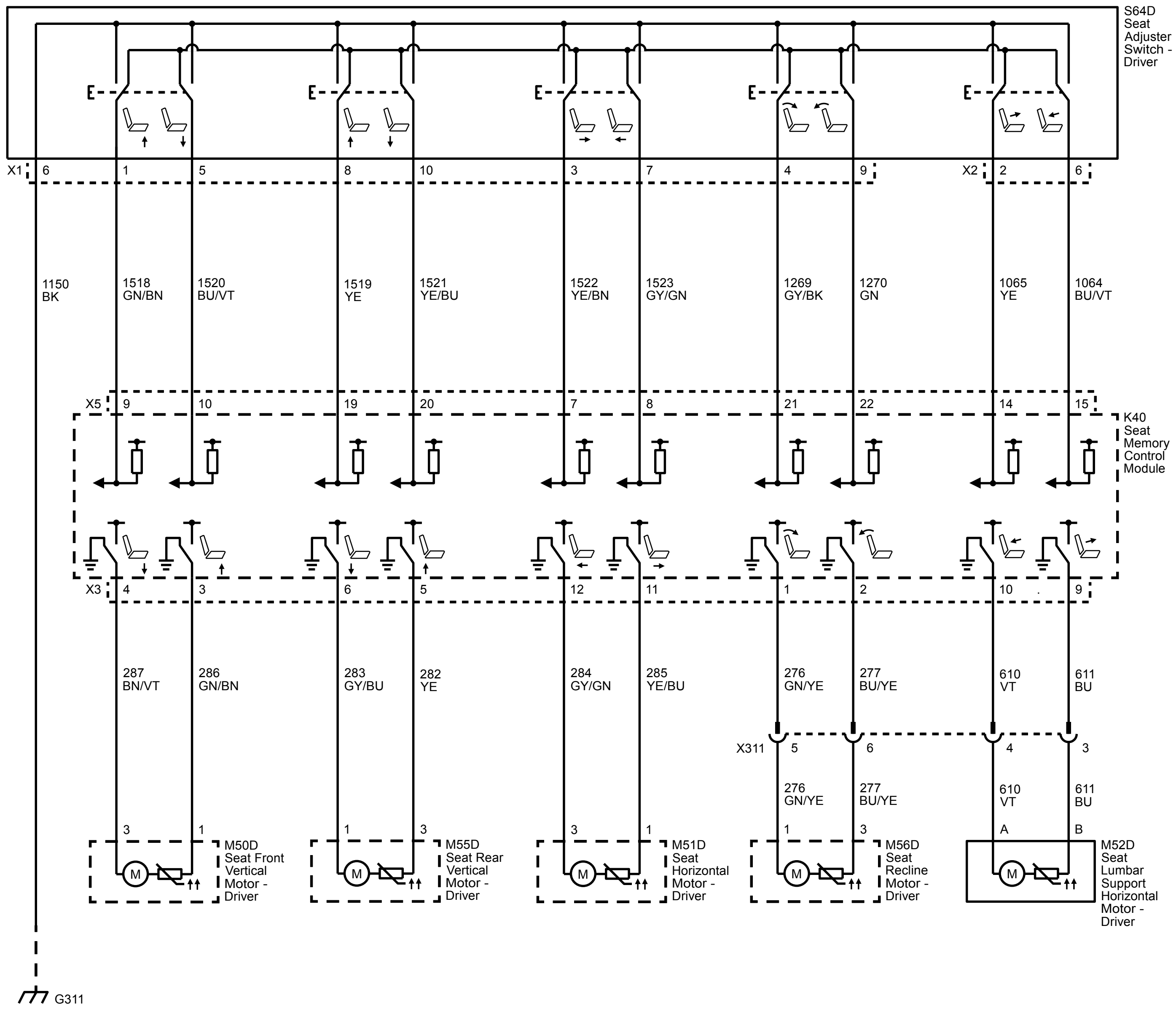
Schematic and Routing Diagrams

Driver Seat Schematics

Power, Ground, Serial Data and Memory Switch (A45)

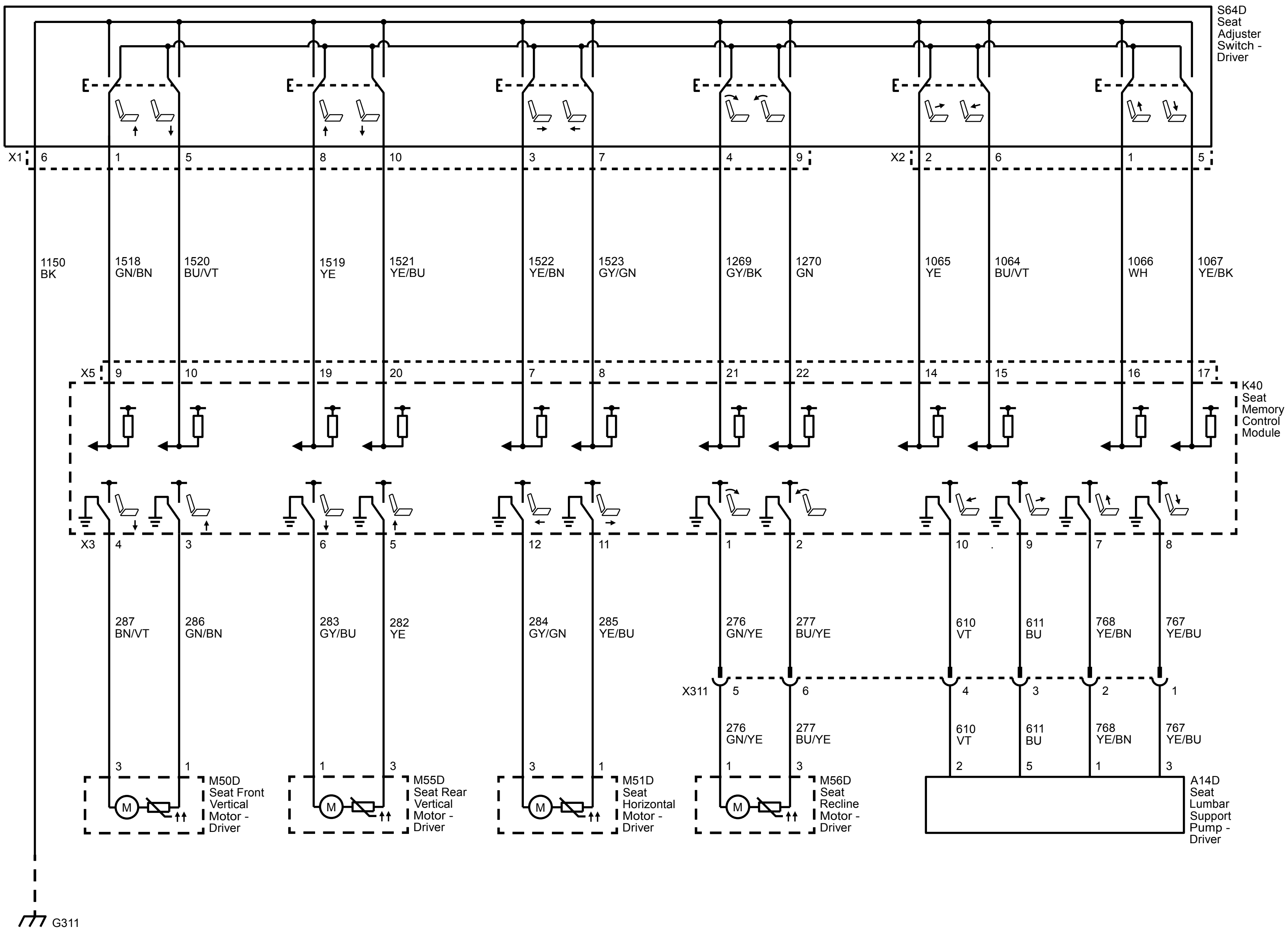

B+
X51L
Fuse Block
- Instrument
Panel Left
F41DL
30A
F25DL
10A
X1
27
5
Interior Lights
Dimming
Schematics
6817
YE
2
4120 Ω
1370 Ω
634 Ω
S47D
Seat
Memory
Switch -
Driver
SET
2
1
5
1
6
5040
RD/YE
1140
RD/BN
614
BU/GN
5978
BK/BU
615
WH
X505
33
32
34
X500
7
21
8
S52
Outside
Rearview
Mirror
Switch
S79P
Window
Switch -
Passenger
K9
Body
Control
Module
X310
2
23
35
40
41
7530
GN/WH
5060
GN
X1
2
1
B+
B+
X6
15
11
12
X2
3
1
K40
Seat
Memory
Control
Module
X2
5
1150
BK
G311
X4
1
2
JF4
JF4
5130
GN/VT
5129
YE
Adjustable
Pedal
Schematics

Controls and Motors (A45 without GAJ or Y91)


S64D Seat Adjuster Switch - Driver
X1
6
1
5
8
10
3
7
4
9
X2
2
6
1150 BK
1518 GN/BN
1520 BU/VT
1519 YE
1521 YE/BU
1522 YE/BN
1523 GY/GN
1269 GY/BK
1270 GN
1065 YE
1064 BU/VT
X5
9
10
19
20
7
8
21
22
14
15
K40 Seat Memory Control Module
X3
4
3
6
5
12
11
1
2
10
9
287 BN/VT
286 GN/BN
283 GY/BU
282 YE
284 GY/GN
285 YE/BU
276 GN/YE
277 BU/YE
610 VT
611 BU
X311
5
6
4
3
276 GN/YE
277 BU/YE
610 VT
611 BU
3
1
1
3
3
1
1
3
A
B
M
M
M
M
M
M50D Seat Front Vertical Motor - Driver
M55D Seat Rear Vertical Motor - Driver
M51D Seat Horizontal Motor - Driver
M56D Seat Recline Motor - Driver
M52D Seat Lumbar Support Horizontal Motor - Driver
G311

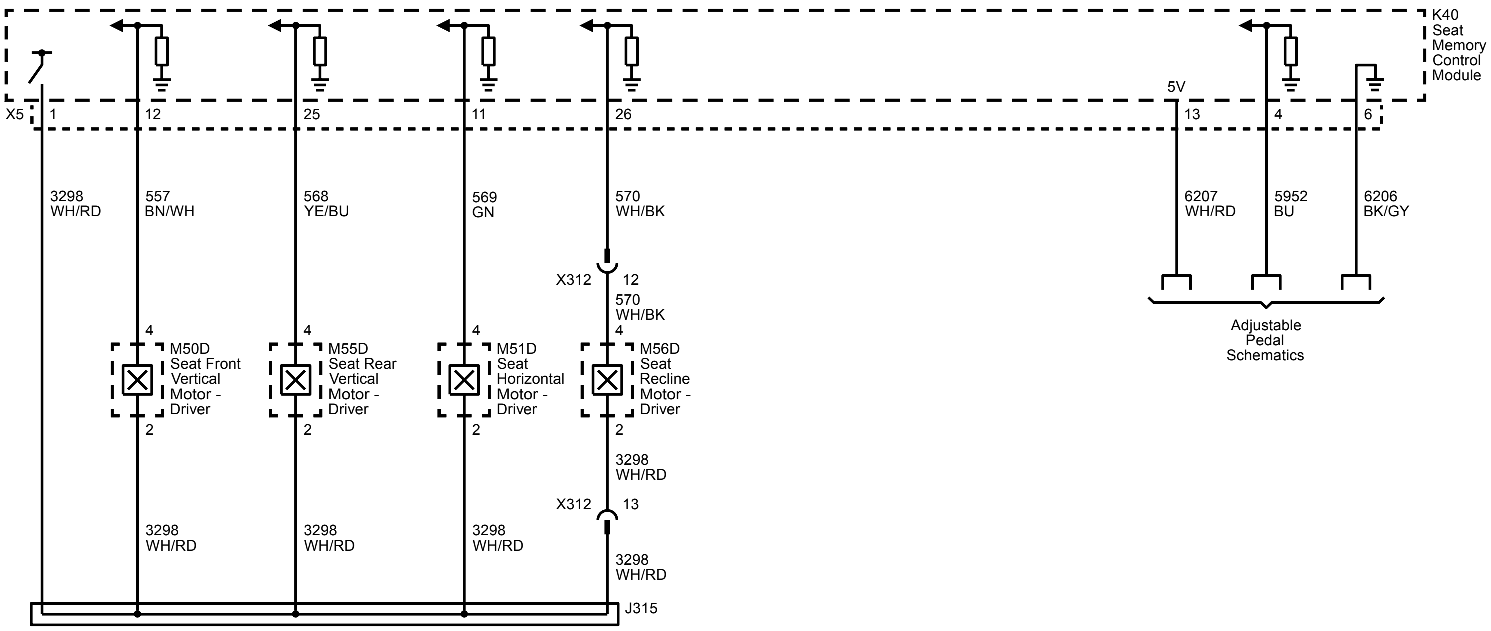
LOC
DESC

Controls and Motors (A45 with GAJ or Y91)

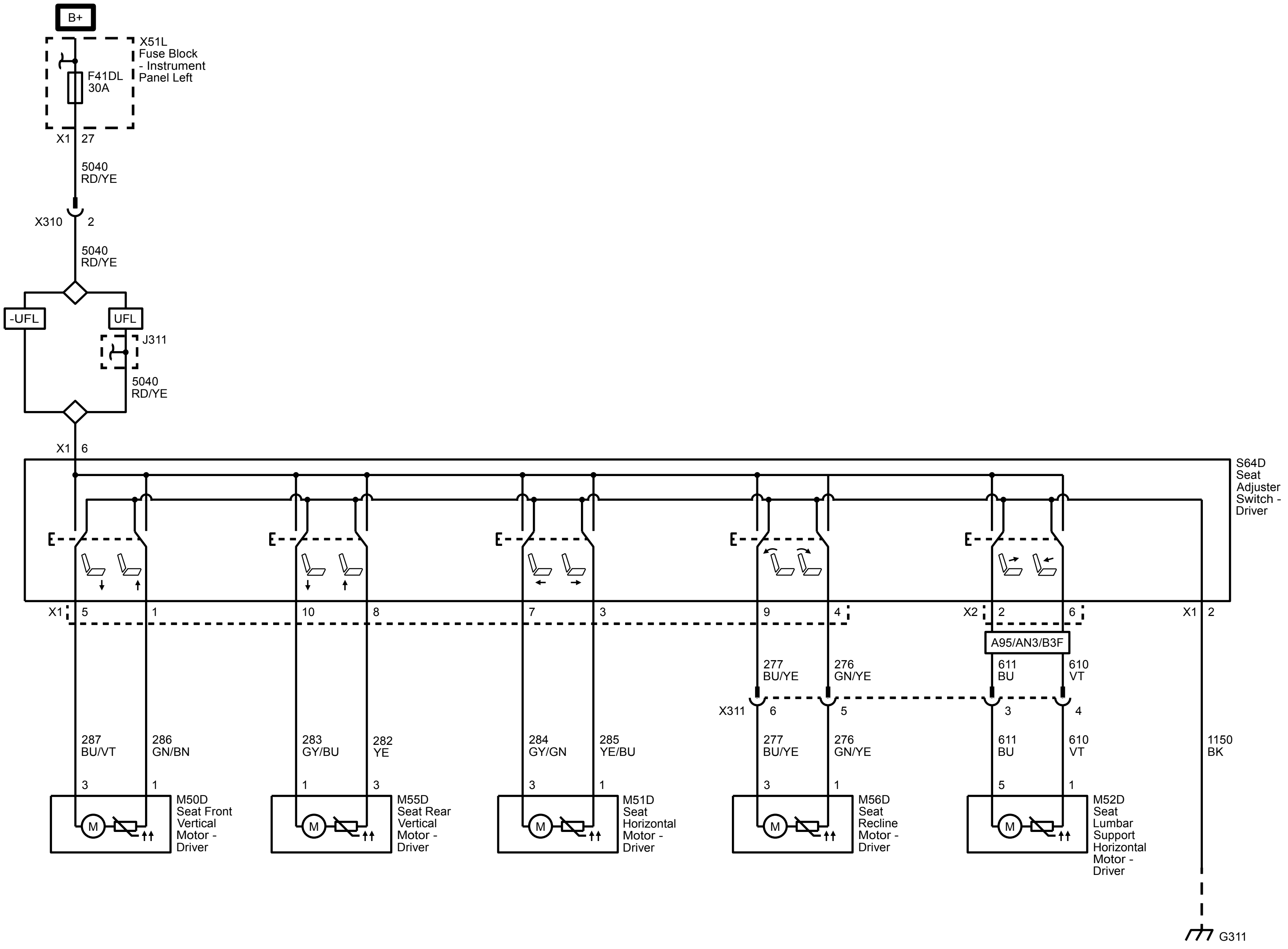

S64D Seat Adjuster Switch - Driver
X1 6 1 5 8 10 3 7 4 9
X2 2 6 1 5
1150 BK
1518 GN/BN
1520 BU/VT
1519 YE
1521 YE/BU
1522 YE/BN
1523 GY/GN
1269 GY/BK
1270 GN
1065 YE
1064 BU/VT
1066 WH
1067 YE/BK
X5 9 10 19 20 7 8 21 22 14 15 16 17
K40 Seat Memory Control Module
X3 4 3 6 5 12 11 1 2 10 9 7 8
287 BN/VT
286 GN/BN
283 GY/BU
282 YE
284 GY/GN
285 YE/BU
276 GN/YE
277 BU/YE
610 VT
611 BU
768 YE/BN
767 YE/BU
X311 5 6 4 3 2 1
276 GN/YE
277 BU/YE
610 VT
611 BU
768 YE/BN
767 YE/BU
3 1
M
M50D Seat Front Vertical Motor - Driver
1 3
M
M55D Seat Rear Vertical Motor - Driver
3 1
M
M51D Seat Horizontal Motor - Driver
1 3
M
M56D Seat Recline Motor - Driver
2 5 1 3
A14D Seat Lumbar Support Pump - Driver
G311

Position Sensors (A45)

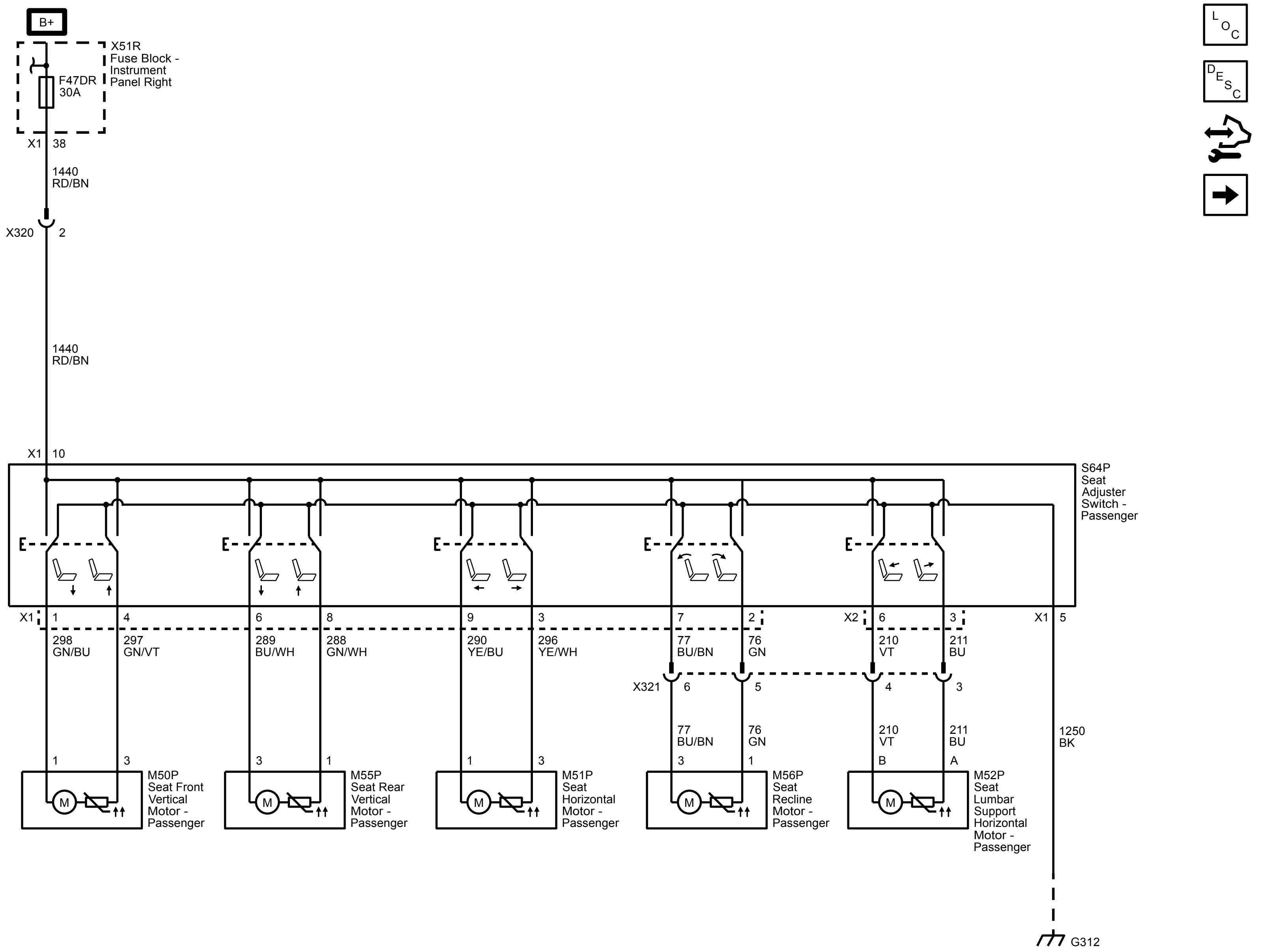
LOC
DESC


K40
Seat
Memory
Control
Module
X5
1
12
25
11
26
5V
13
4
6
3298
WH/RD
557
BN/WH
568
YE/BU
569
GN
570
WH/BK
6207
WH/RD
5952
BU
6206
BK/GY
X312
12
570
WH/BK
Adjustable
Pedal
Schematics
4
M50D
Seat Front
Vertical
Motor -
Driver
4
M55D
Seat Rear
Vertical
Motor -
Driver
4
M51D
Seat
Horizontal
Motor -
Driver
4
M56D
Seat
Recline
Motor -
Driver
2
2
2
2
3298
WH/RD
X312
13
3298
WH/RD
3298
WH/RD
3298
WH/RD
3298
WH/RD
J315

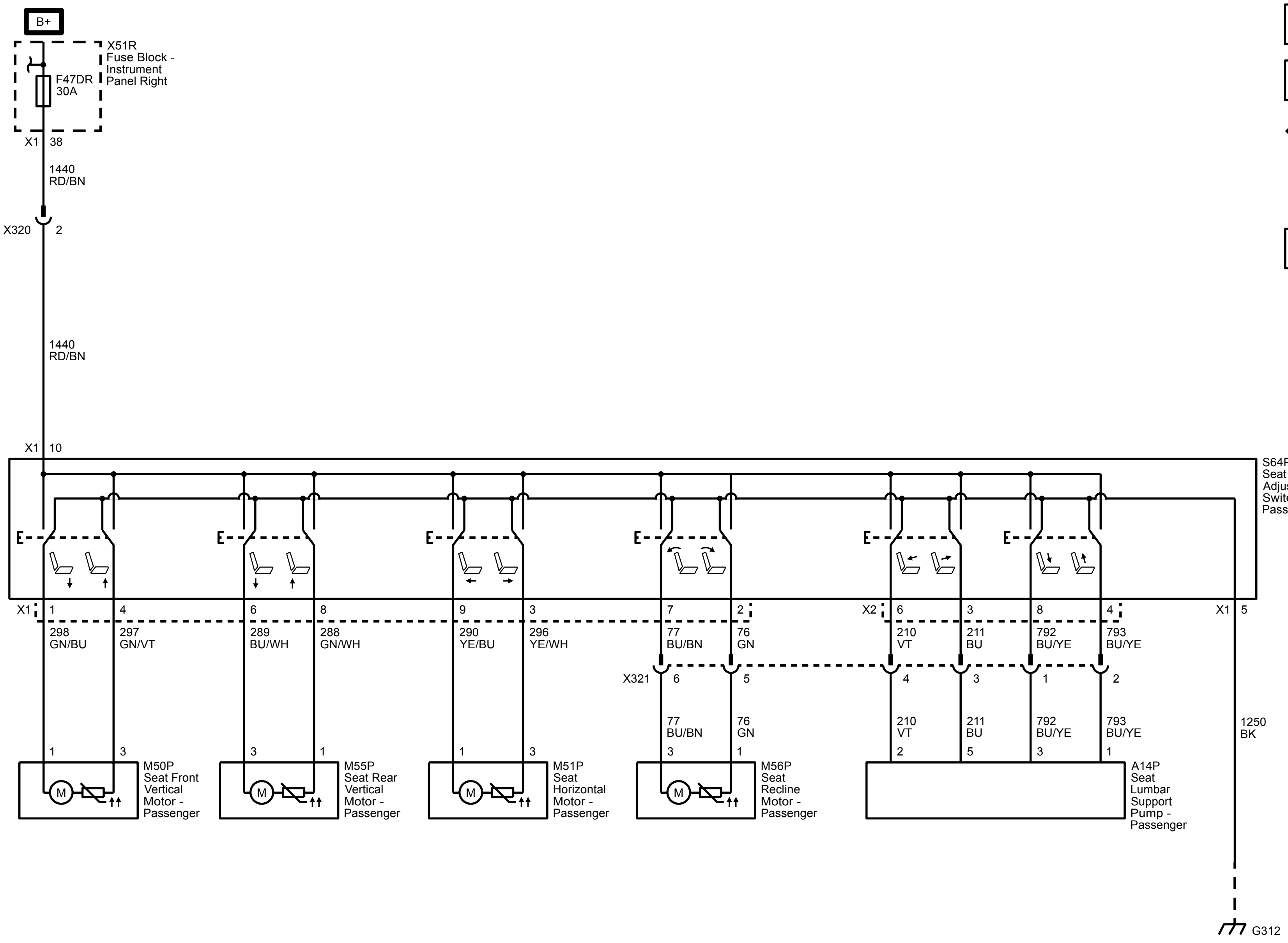
Power Seat (without A45)


B+
X51L
Fuse Block
- Instrument
Panel Left
F41DL
30A
X1 27
5040
RD/YE
X310 2
5040
RD/YE
-UFL
UFL
J311
5040
RD/YE
X1 6
S64D
Seat
Adjuster
Switch -
Driver
X1 5
1
10
8
7
3
9
4
X2 2
6
X1 2
A95/AN3/B3F
277
BU/YE
276
GN/YE
611
BU
610
VT
X311 6
5
3
4
287
BU/VT
286
GN/BN
283
GY/BU
282
YE
284
GY/GN
285
YE/BU
277
BU/YE
276
GN/YE
611
BU
610
VT
1150
BK
3
1
1
3
3
1
3
1
5
1
M
M50D
Seat Front
Vertical
Motor -
Driver
M55D
Seat Rear
Vertical
Motor -
Driver
M51D
Seat
Horizontal
Motor -
Driver
M56D
Seat
Recline
Motor -
Driver
M52D
Seat
Lumbar
Support
Horizontal
Motor -
Driver
G311

Power Seat (without GAJ or Y91)


B+
X51R
Fuse Block - Instrument Panel Right
F47DR
30A
X1 38
1440
RD/BN
X320 2
1440
RD/BN
X1 10
S64P
Seat Adjuster Switch - Passenger
X1 1
4
6
8
9
3
7
2
X2 6
3
X1 5
298 GN/BU
297 GN/VT
289 BU/WH
288 GN/WH
290 YE/BU
296 YE/WH
77 BU/BN
76 GN
210 VT
211 BU
X321 6
5
4
3
77 BU/BN
76 GN
210 VT
211 BU
1250 BK
1
3
3
1
1
3
3
1
B
A
M
M50P Seat Front Vertical Motor - Passenger
M55P Seat Rear Vertical Motor - Passenger
M51P Seat Horizontal Motor - Passenger
M56P Seat Recline Motor - Passenger
M52P Seat Lumbar Support Horizontal Motor - Passenger
G312
LOC
DESC

Power Seat (GAJ or Y91)


B+
X51R
Fuse Block - Instrument Panel Right
F47DR
30A
X1
38
1440
RD/BN
X320
2
1440
RD/BN
X1
10
S64P
Seat Adjuster Switch - Passenger
X1
1
4
6
8
9
3
7
2
X2
6
3
8
4
X1
5
298
GN/BU
297
GN/VT
289
BU/WH
288
GN/WH
290
YE/BU
296
YE/WH
77
BU/BN
76
GN
210
VT
211
BU
792
BU/YE
793
BU/YE
X321
6
5
4
3
1
2
77
BU/BN
76
GN
210
VT
211
BU
792
BU/YE
793
BU/YE
1250
BK
1
3
3
1
1
3
3
1
2
5
3
1
M
M50P
Seat Front Vertical Motor - Passenger
M55P
Seat Rear Vertical Motor - Passenger
M51P
Seat Horizontal Motor - Passenger
M56P
Seat Recline Motor - Passenger
A14P
Seat Lumbar Support Pump - Passenger
G312

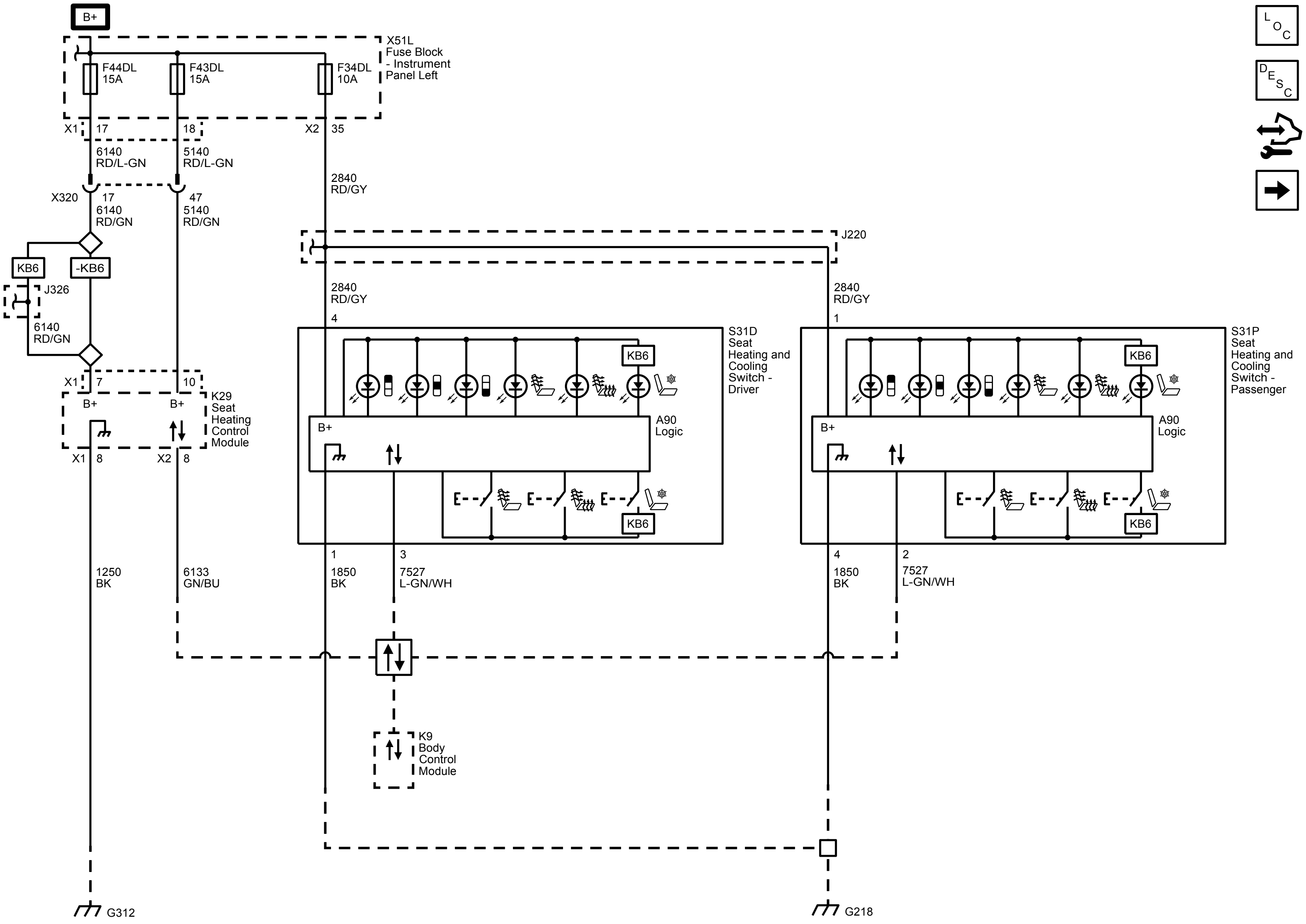
Seats

Seat Heating and Cooling

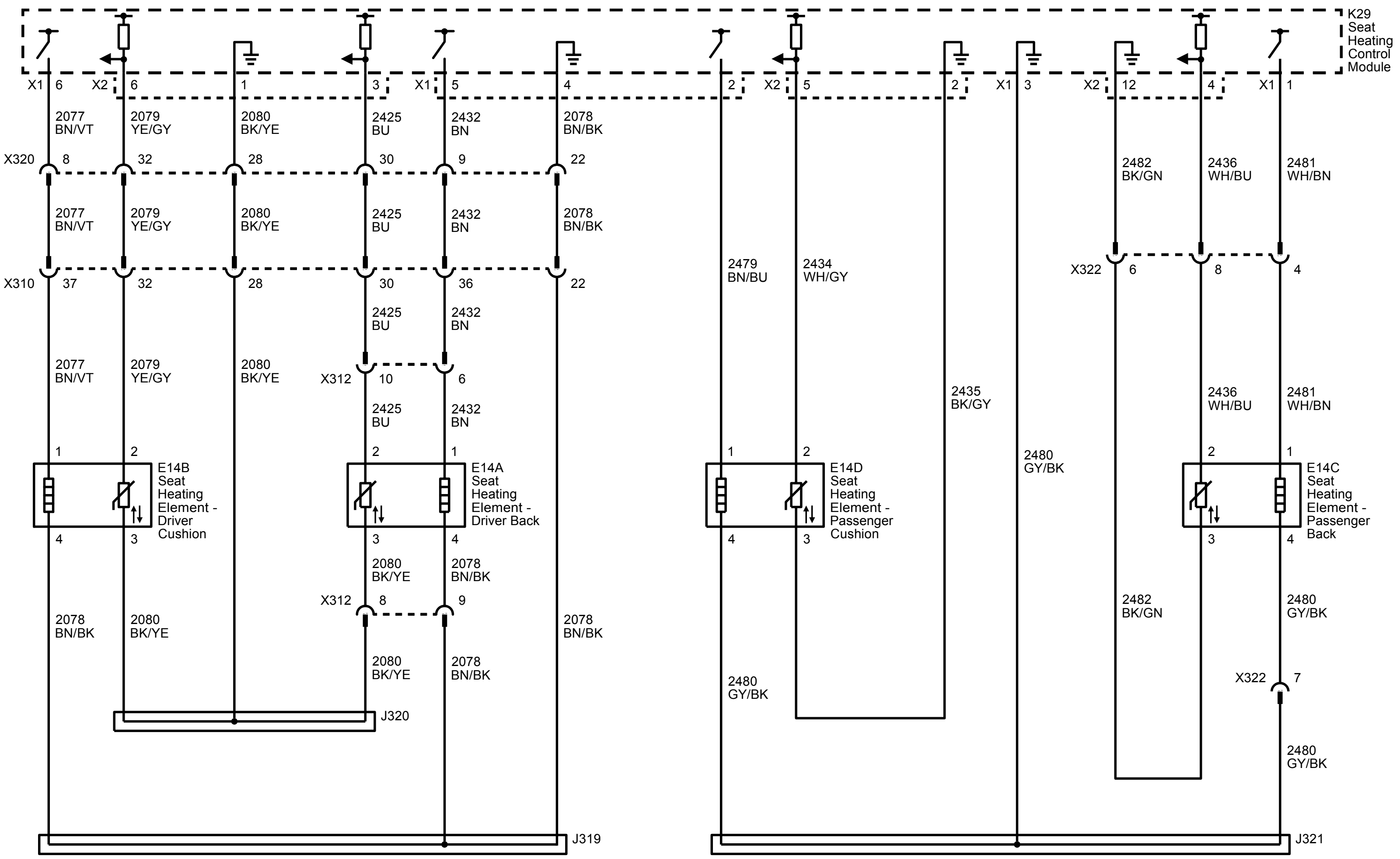
Schematic and Routing Diagrams

Heated/Cooled Seat Schematics

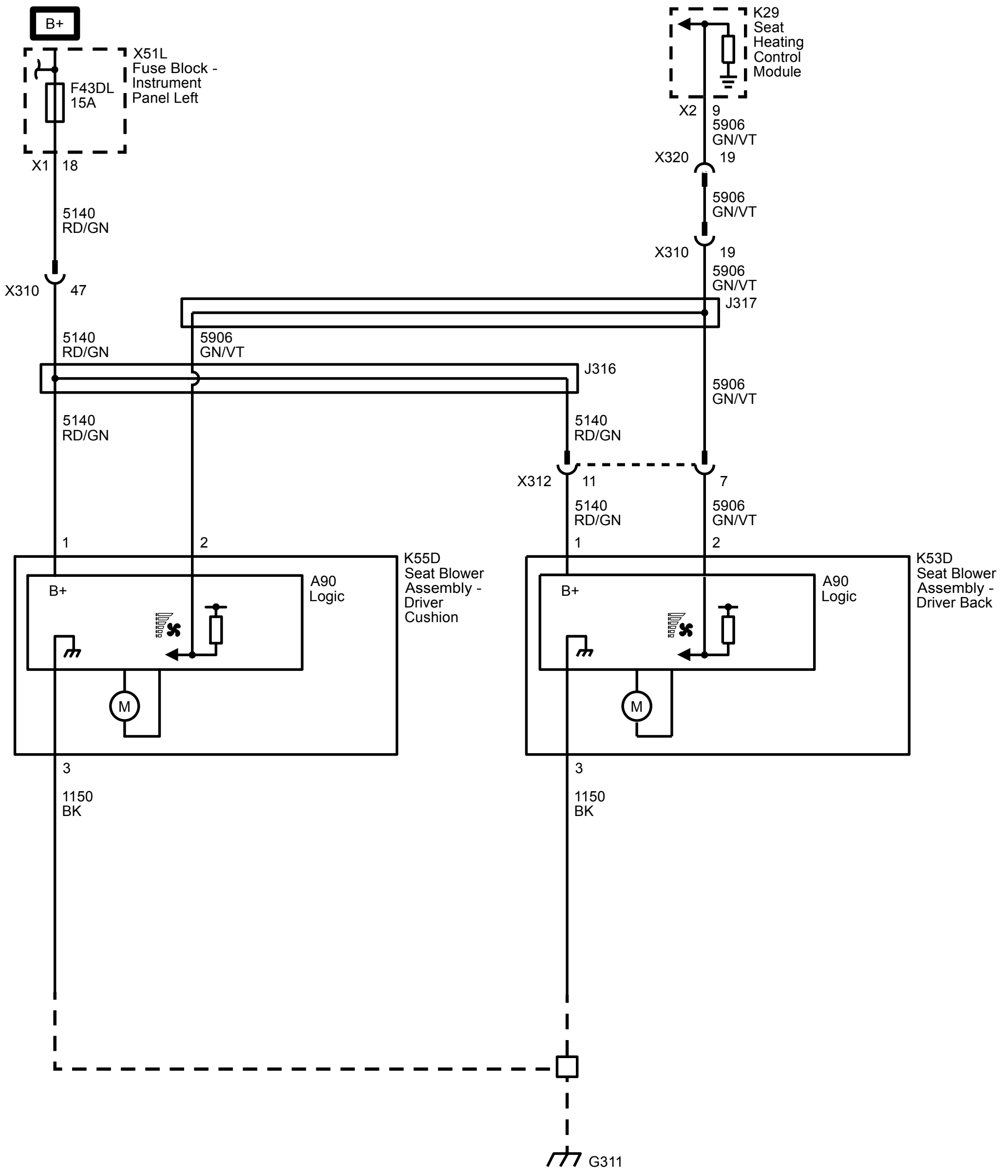
Power, Ground, Serial Data and Switches (KA1)


B+
X51L
Fuse Block
- Instrument
Panel Left
F44DL
15A
F43DL
15A
F34DL
10A
X1
17
18
X2
35
6140
RD/L-GN
5140
RD/L-GN
2840
RD/GY
X320
17
6140
RD/GN
47
5140
RD/GN
J220
KB6
-KB6
J326
6140
RD/GN
2840
RD/GY
4
2840
RD/GY
1
X1
7
10
K29
Seat
Heating
Control
Module
B+
B+
X1
8
X2
8
S31D
Seat
Heating and
Cooling
Switch -
Driver
KB6
A90
Logic
B+
KB6
S31P
Seat
Heating and
Cooling
Switch -
Passenger
KB6
A90
Logic
B+
KB6
1
3
4
2
1250
BK
6133
GN/BU
1850
BK
7527
L-GN/WH
1850
BK
7527
L-GN/WH
K9
Body
Control
Module
G312
G218

Heating Elements (KA1)

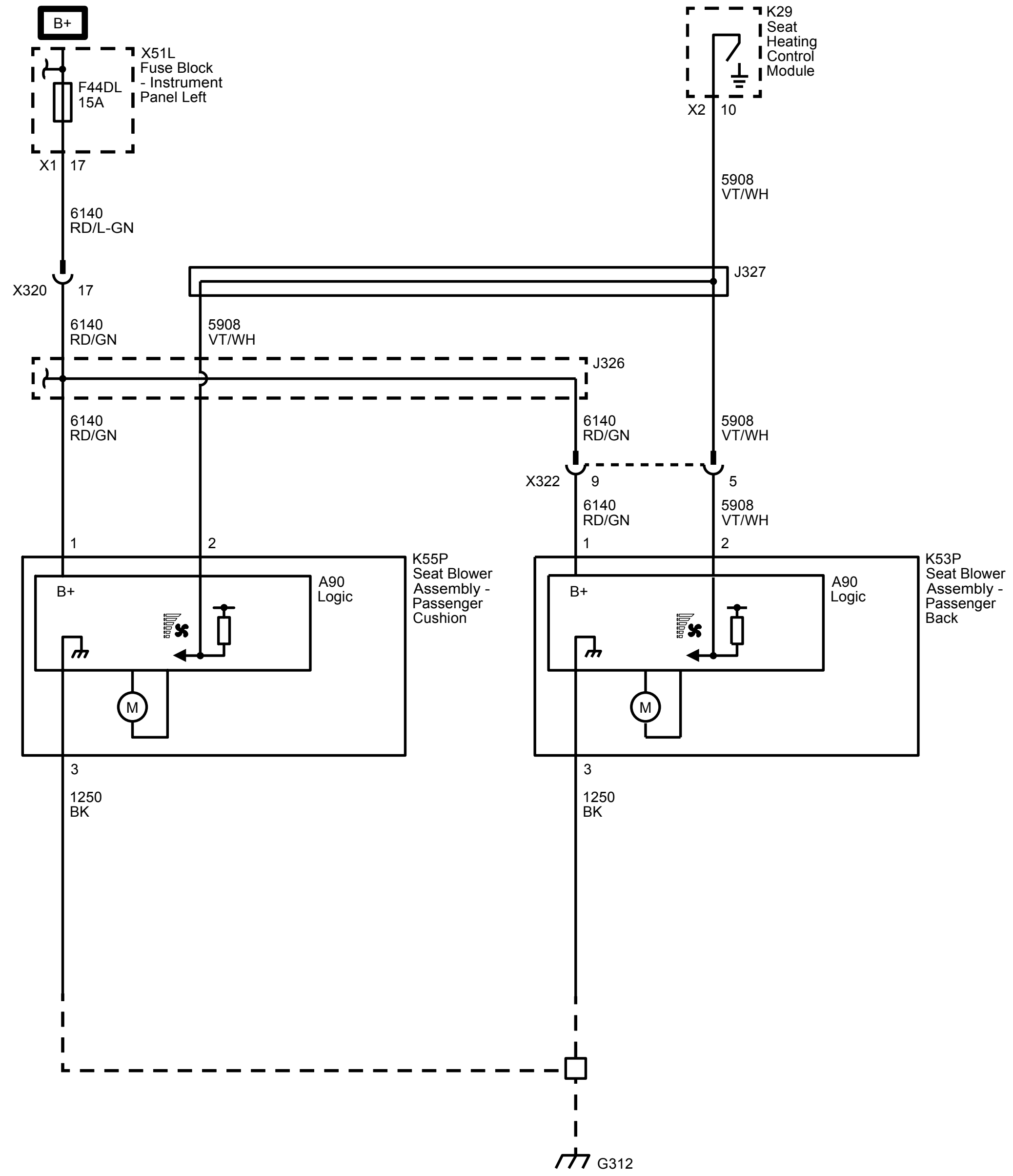

K29
Seat
Heating
Control
Module
X1 6
X2 6
1
3
X1 5
4
2
X2 5
2
X1 3
X2 12
4
X1 1
2077
BN/VT
2079
YE/GY
2080
BK/YE
2425
BU
2432
BN
2078
BN/BK
X320
8
32
28
30
9
22
X310
37
32
28
30
36
22
X312
10
6
2479
BN/BU
2434
WH/GY
2435
BK/GY
2480
GY/BK
2482
BK/GN
2436
WH/BU
2481
WH/BN
X322
6
8
4
E14B
Seat
Heating
Element -
Driver
Cushion
E14A
Seat
Heating
Element -
Driver Back
E14D
Seat
Heating
Element -
Passenger
Cushion
E14C
Seat
Heating
Element -
Passenger
Back
1
2
4
3
X312
8
9
X322
7
J320
J319
J321

Driver Seat (KB6)


B+
X51L
Fuse Block -
Instrument
Panel Left
F43DL
15A
X1
18
5140
RD/GN
X310
47
K29
Seat
Heating
Control
Module
X2
9
5906
GN/VT
X320
19
5906
GN/VT
X310
19
5906
GN/VT
J317
5140
RD/GN
5906
GN/VT
J316
5906
GN/VT
5140
RD/GN
5140
RD/GN
X312
11
7
5140
RD/GN
5906
GN/VT
1
2
K55D
Seat Blower
Assembly -
Driver
Cushion
A90
Logic
B+
M
3
1150
BK
1
2
K53D
Seat Blower
Assembly -
Driver Back
A90
Logic
B+
M
3
1150
BK
G311

LOC
DESC

Passenger Seat (KB6)



B+
X51L
Fuse Block
- Instrument
Panel Left
F44DL
15A
X1
17
6140
RD/L-GN
X320
17
6140
RD/GN
5908
VT/WH
K29
Seat
Heating
Control
Module
X2
10
5908
VT/WH
J327
J326
6140
RD/GN
6140
RD/GN
5908
VT/WH
X322
9
5
6140
RD/GN
5908
VT/WH
1
2
K55P
Seat Blower
Assembly -
Passenger
Cushion
A90
Logic
B+
M
3
1250
BK
1
2
K53P
Seat Blower
Assembly -
Passenger
Back
A90
Logic
B+
M
3
1250
BK
G312

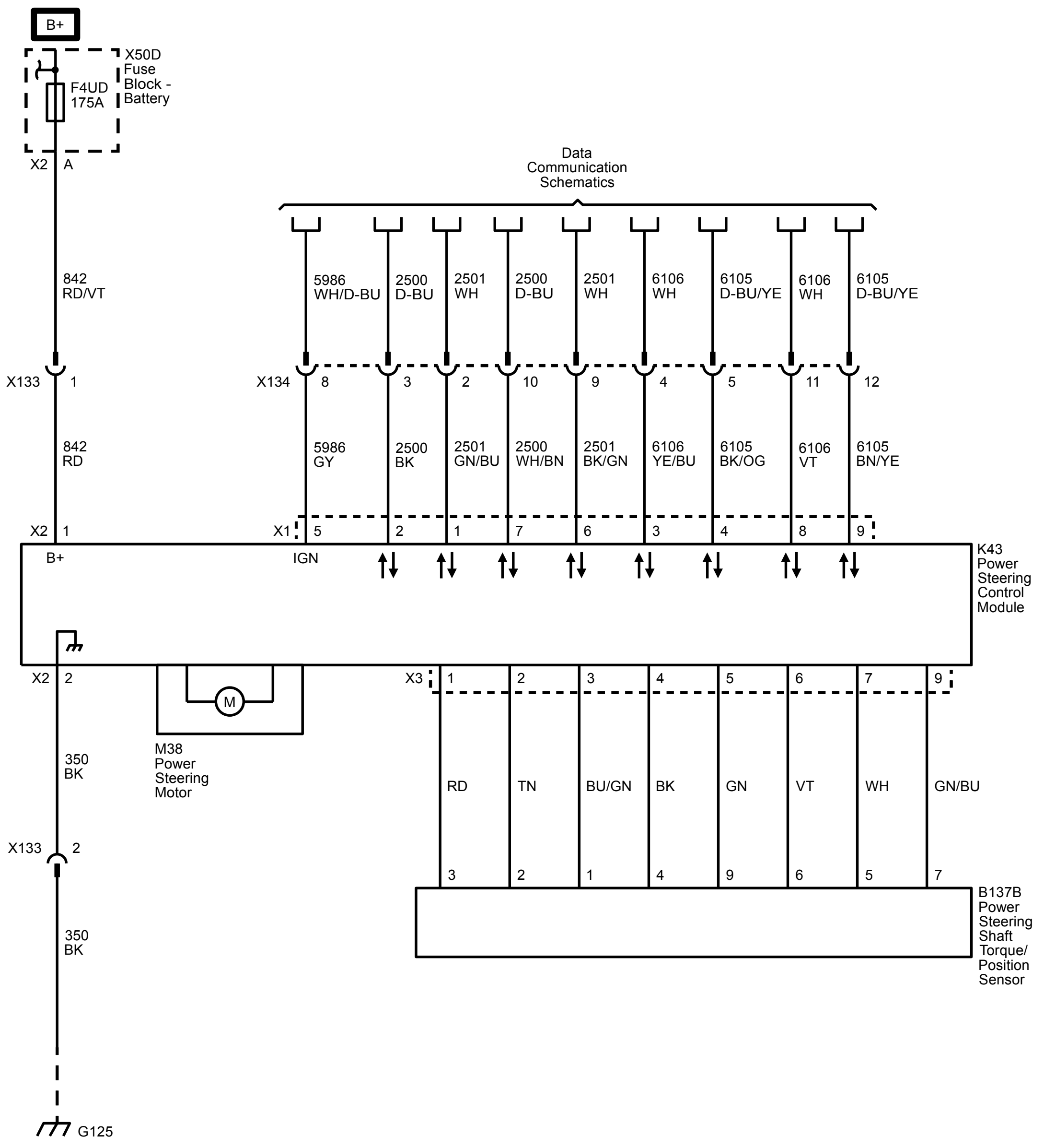
Steering

Power Steering

Schematic and Routing Diagrams

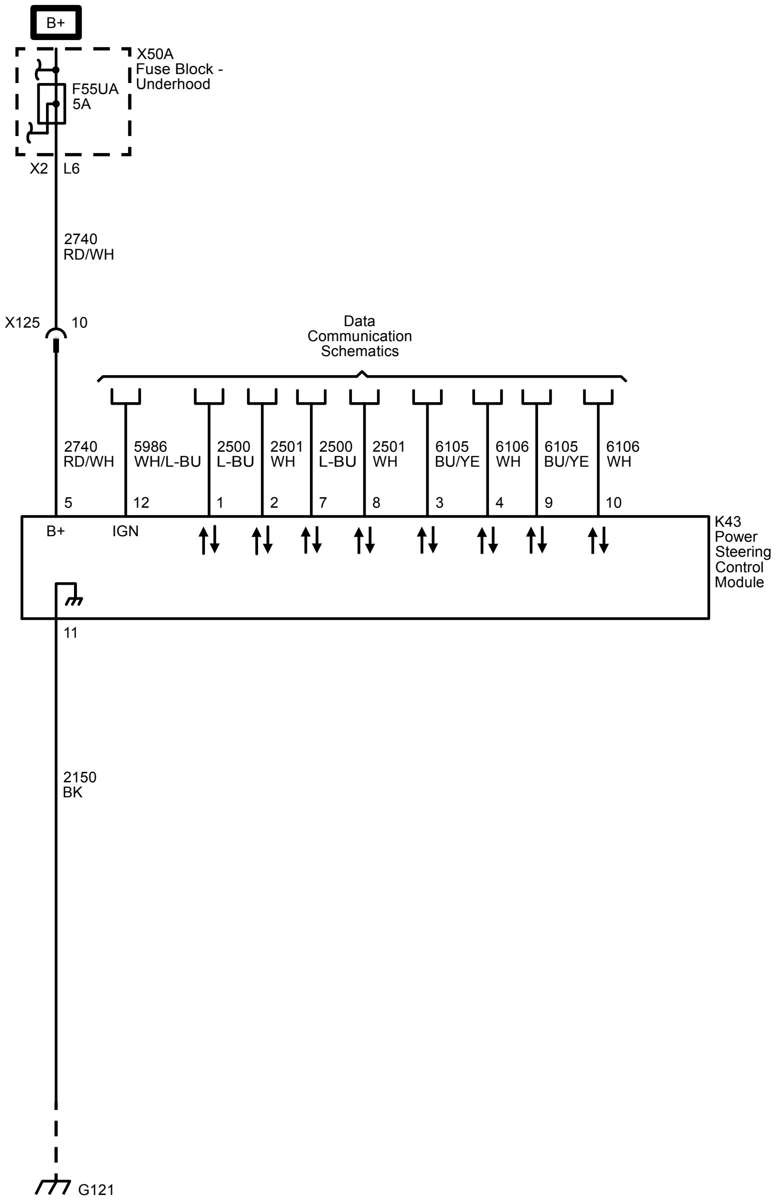
Power Steering Schematics

Electric Power Steering



B+
X50D
Fuse
Block -
Battery
F4UD
175A
X2
A
842
RD/VT
X133
1
842
RD
X2
1
B+
Data
Communication
Schematics
5986
WH/D-BU
2500
D-BU
2501
WH
2500
D-BU
2501
WH
6106
WH
6105
D-BU/YE
6106
WH
6105
D-BU/YE
X134
8
3
2
10
9
4
5
11
12
5986
GY
2500
BK
2501
GN/BU
2500
WH/BN
2501
BK/GN
6106
YE/BU
6105
BK/OG
6106
VT
6105
BN/YE
X1
5
2
1
7
6
3
4
8
9
IGN
K43
Power
Steering
Control
Module
X2
2
350
BK
M
M38
Power
Steering
Motor
X133
2
350
BK
G125
X3
1
2
3
4
5
6
7
9
RD
TN
BU/GN
BK
GN
VT
WH
GN/BU
3
2
1
4
9
6
5
7
B137B
Power
Steering
Shaft
Torque/
Position
Sensor

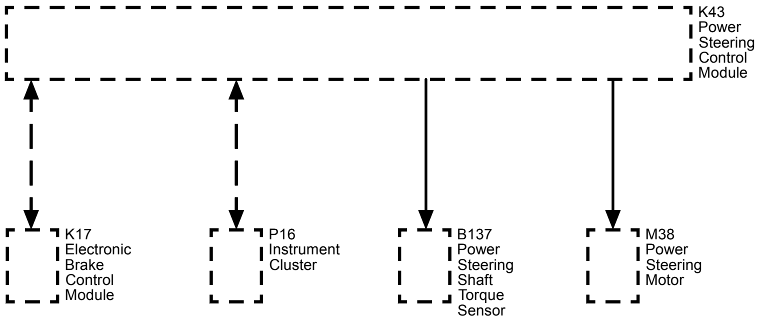
Variable Effort Steering (NV8)


B+
X50A
Fuse Block -
Underhood
F55UA
5A
X2
L6
2740
RD/WH
X125
10
Data
Communication
Schematics
2740
RD/WH
5986
WH/L-BU
2500
L-BU
2501
WH
2500
L-BU
2501
WH
6105
BU/YE
6106
WH
6105
BU/YE
6106
WH
5
12
1
2
7
8
3
4
9
10
B+
IGN
K43
Power
Steering
Control
Module
11
2150
BK
G121

Description and Operation

Power Steering System Description and Operation (Electric Power Steering)

Electric Power Steering Block Diagram



The belt driven electronic power steering system consists of the following components:

- The integrated electromechanical power steering unit, containing the power steering control module, its sensors, the power steering motor, a belt drive and a ball nut mechanism.
- The steering gear (rack and pinion)

The power steering control module is part of the power steering assist motor assembly and is replaceable as a complete unit independent of the steering gear assembly. The torque sensor is integrated with the steering gear pinion and is serviced as part of the steering gear.

The belt driven electric power steering system reduces the amount of effort needed to steer the vehicle utilizing the power steering control module to control the power steering motor to maneuver the steering gear. The power steering control module also uses a combination of the torque sensor, motor rotational sensor, battery voltage circuit and serial data circuit to perform the system functions. At low speeds more assist is provided for easy turning during parking maneuvers. At higher speeds less assist is provided for improved road feel and directional stability.

The power steering control module continuously monitors the digital torque sensor's torque and index current signals. As the steering wheel is turned and torque is applied to the steering shaft, the steering input and output shafts are monitored via the torque signal circuit and then processed by the power steering control module to calculate the steering torque. The voltage signals of the motor position sensor and the digital torque sensor's index current signal are both processed by the power steering control module to detect and calculate the steering wheel angle.

The power steering control module responds to the change in the digital torque sensor signals as well as the motor rotational sensor's voltage signals by commanding current to the power steering motor. The power steering control module controls the motor drive circuit to drive the alternating current motor. The power steering control module and motor assembly is attached to the base of the steering gear housing and applies power assist directly to the rack with a belt drive and a ball nut mechanism to maneuver the rack laterally depending on the direction the steering wheel is turned.

The power steering control module has advanced software features referred to as Active Pull Compensation and Smooth Road Shake Compensation.

Active Pull Compensation constantly measures steering wheel torque being applied by the driver to maintain the vehicle’s path. When the software detects extra effort being used, the steering assist motor adds torque in the proper direction to prevent the driver from having to make corrections to keep the vehicle on course. The torque assistance reduces driver fatigue and effort and makes steering easier. The software automatically resets itself to compensate for changing road conditions or the vehicle turning on curves. This software feature will compensate for a specific range of lead/pull up to its maximum limit within a set of parameters. The feature can be disabled during diagnostics for appropriate root cause of a complaint vehicle.

Smooth Road Shake Compensation reduces steering wheel rotational vibration caused by an imbalance from the front tire/wheel assemblies. The rotational vibration transmitted to the steering wheel is referred to as Smooth Road Shake and is a phenomenon that occurs only at highway speeds and on smooth roads. The power steering control module employs active controls to sense and reduce the periodic torque component applied to the steering wheel caused by the wheel imbalance force. This software feature will compensate for a specific range of imbalance. If the imbalance is above a certain level, the power steering control module will disable the smooth road shake compensation software feature and set a DTC C044B to indicate that it has been disabled.

The power steering control module has the ability to calculate an internal system temperature to protect the power steering system from potential damage. To reduce a high system temperature, the power steering control module will reduce the amount of current commanded to the power steering motor, which reduces the amount of steering assist and will set DTC C0176.

The power steering control module has the ability to detect malfunctions within the electric power steering system. Any malfunction detected that disables steering assist will cause the SERVICE POWER STEERING or STEERING ASSIST IS REDUCED DRIVE WITH CARE message to be displayed on the driver information center.

Power Steering System Description and Operation (Hydraulic Power Steering)

The hydraulic power steering pump is a constant displacement vane-type pump that provides hydraulic pressure and flow for the power steering gear. The hydraulic power steering pump is belt-driven.

The power steering fluid reservoir holds the power steering fluid and may be integral with the power steering pump or remotely located. The following locations are typical locations for the remote reservoir:

- Mounted to the front of the dash panel
- Mounted to the inner fender
- Mounted to a bracket on the engine

The 2 basic types of power steering gears are listed below:

- A recirculating ball system
- A rack and pinion system

In the recirculating ball system, a worm gear converts steering wheel movement to movement of a sector shaft. A pitman arm attached to the bottom of the sector shaft actually moves one tie rod and an intermediate rod move the other tie rod.

In the rack and pinion system, the rack and the pinion are the 2 components that convert steering wheel rotation to lateral movement. The steering shaft is attached to the pinion in the steering gear. The pinion rotates with the steering wheel. Gear teeth on the pinion mesh with the gear teeth on the rack. The rotating pinion moves the rack from side to side. The lateral action of the rack pushes and pulls the tie rods in order to change the direction of the vehicle's front wheels.

The power steering pressure hose connects the power steering pump union fitting to the power steering gear and allows pressurized power steering fluid to flow from the pump to the gear.

The power steering return hose returns fluid from the power steering gear back to the power steering fluid reservoir. The power steering return line may contain an integral fin-type or line-type power steering fluid cooler.

In a typical power steering system, a pump generates hydraulic pressure, causing fluid to flow, via the pressure hose, to the steering gear valve assembly. The steering gear valve assembly regulates the incoming fluid to the right and left chambers in order to assist in right and left turns.

Turning the steering wheel activates the valve assembly, which applies greater fluid pressure and flow to 1 side of the steering gear piston, and lower pressure and flow to the other side of the piston. The pressure assists the movement of the gear piston. Tie rods transfer this force to the front wheels, which turn the vehicle right or left.

Power Steering System Description and Operation (Active Hydraulic Assist (NV8))

The Active Hydraulic Assist (AHA) system is an updated recirculating ball hydraulic power steering system that allows for some of the performance benefits of electric power steering such as variable effort steering, active return to center, active damping, and lead/pull compensation.

The original hydraulic system was retrofitted with the AHA Module, a pressure sensor, and an electric coil (electromechanical valve).

The pressure sensor is one unit with two separate detection bodies located in the left and right chambers of the steering gear. As the driver turns the steering wheel, the pressure increases on one side and decreases on the other. These pressure changes are sent to the AHA module which then decides which way to direct the hydraulic pressure.

The electromechanical control of the pressure valve allows for the additional functions in the power steering system.

Steering

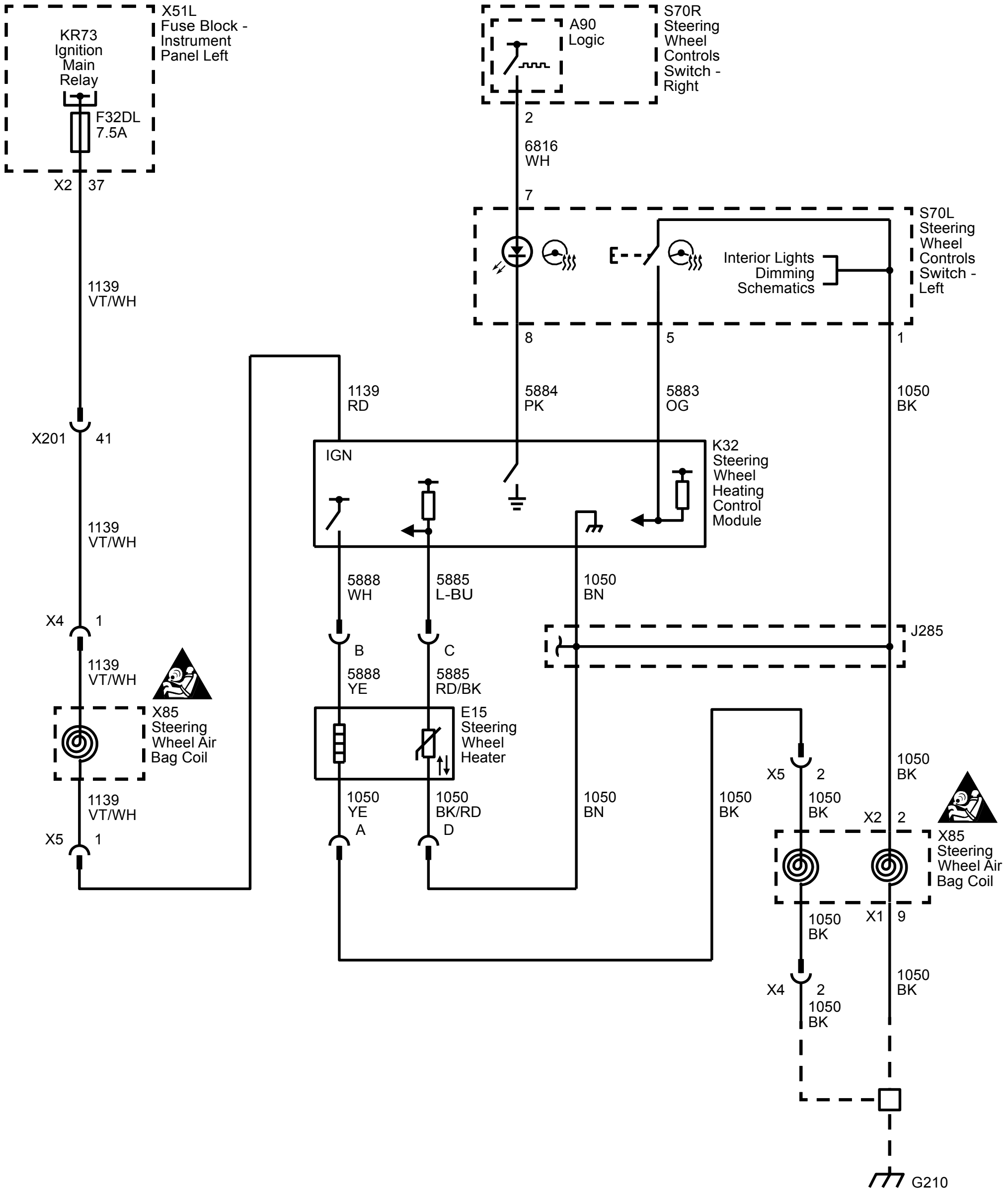
Steering Wheel and Column

Schematic and Routing Diagrams

Steering Wheel Schematics

Heated Steering Wheel (UVD)

LOC
DESC


KR73 Ignition Main Relay
X51L Fuse Block - Instrument Panel Left
F32DL 7.5A
X2 37
1139 VT/WH
X201 41
1139 VT/WH
X4 1
1139 VT/WH
X85 Steering Wheel Air Bag Coil
1139 VT/WH
X5 1
A90 Logic
S70R Steering Wheel Controls Switch - Right
2
6816 WH
7
S70L Steering Wheel Controls Switch - Left
Interior Lights Dimming Schematics
8
5
1
1139 RD
5884 PK
5883 OG
1050 BK
IGN
K32 Steering Wheel Heating Control Module
5888 WH
5885 L-BU
1050 BN
J285
B
C
5888 YE
5885 RD/BK
E15 Steering Wheel Heater
1050 YE
A
1050 BK/RD
D
1050 BN
1050 BK
X5 2
1050 BK
1050 BK
X2 2
X85 Steering Wheel Air Bag Coil
1050 BK
X1 9
X4 2
1050 BK
1050 BK
G210

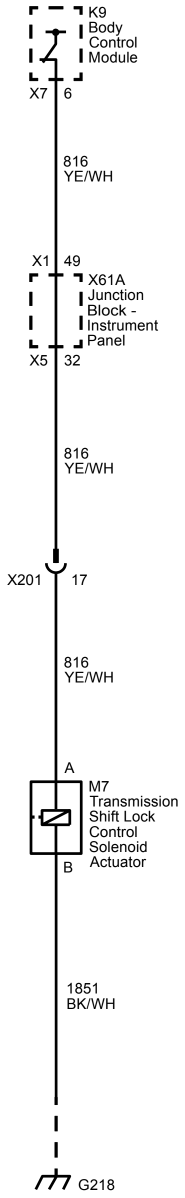
Transmission

Shift Lock Control

Schematic and Routing Diagrams

Shift Lock Control Schematics

Shift Lock Control (M5U, MW7, MYC or MYD)


K9
Body
Control
Module
X7
6
816
YE/WH
X1
49
X61A
Junction
Block -
Instrument
Panel
X5
32
816
YE/WH
X201
17
816
YE/WH
A
M7
Transmission
Shift Lock
Control
Solenoid
Actuator
B
1851
BK/WH
G218

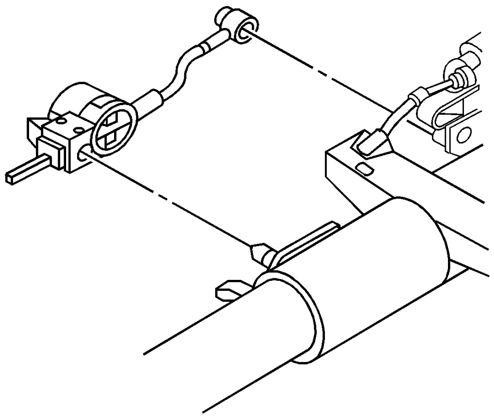
LOC

DESC

Repair Instructions

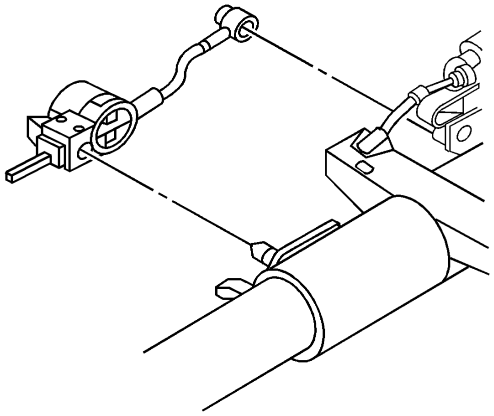
Automatic Transmission Shift Lock Control Actuator Replacement

Removal Procedure

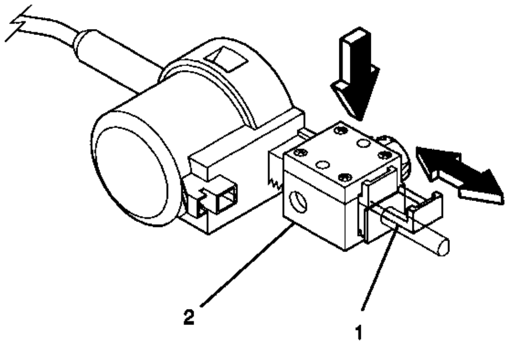


1. Disable the SIR system. Refer to CELL Link Error - Link target cell (cell ID 149662) is invalid for this publication..
2. Remove the knee bolster. Refer to CELL Link Error - Link target cell (cell ID 218531) is invalid for this publication..
3. Put the shift lever clevis into the neutral position.
4. Disconnect the electrical connector.
5. Using a small screwdriver, pry the automatic transmission shift lock control actuator away from the steering column jacket and the cable shift cam.
6. Remove the shift lock control actuator.

Installation Procedure



1. Firmly install the shift lock control actuator onto the steering column jacket and the cable shift cam.
2. Connect the electrical connector.
3. Place the shift lever clevis into the neutral position.



4. Adjust the shift lock control actuator (with the shift lever clevis in the neutral position) in the following way:

  4.1. Pull out the tab (1) on the adjuster block side (2) of the shift lock control actuator.

  4.2. Press on the adjuster block (2) to compress the internal adjuster spring which disengages the adjuster teeth. Slide the adjuster block (2) as far away from the actuator as possible.

5. Place the shift lever into the park position.

6. Lock the adjuster block (2) in place by pushing in on the tab (1).

7. Inspect the shift lock control actuator for the following items:

  7.1. The shift lock control actuator must lock the shift lever clevis when the shift lever clevis is put into the park position.

  7.2. Depress the brake pedal to move the shift lever out of the park position.

  7.3. The actuator will be energized.

  7.4. Readjust the shift lock control actuator if needed.

8. Install the knee bolster. Refer to CELL Link Error - Link target cell (cell ID 218531) is invalid for this publication..

9. Enable the SIR system. Refer to CELL Link Error - Link target cell (cell ID 149662) is invalid for this publication..

Description and Operation

Automatic Transmission Shift Lock Control Description and Operation

The Automatic Transmission Shift Lock Control System is a safety device that prevents an inadvertent shift out of PARK when the engine is running. The driver must press the brake pedal before moving the shift lever out of the PARK position. The system consists of the following components:

- The Automatic Transmission Shift Lock Solenoid (serviced as the Automatic Transmission Shift Lock Actuator)
- The Body Control Module (BCM)
- The Engine Control Module (ECM)

The BCM controls the voltage to the shift lock control solenoid though the shift lock control solenoid controlled voltage circuit. The following conditions must be met before the BCM will supply voltage to the shift lock control solenoid:

- The ignition is in the ON position.
- The ECM sends an input via GMLAN serial data to the BCM when the Transmission Control Module (TCM) indicates the transmission is in the PARK position.
- The BCM receives a brake applied input from the stop lamp switch.

Since the shift lock control solenoid is permanently grounded, the BCM supplies voltage to the automatic transmission shift lock control solenoid, releasing the mechanical lock on the shift lever as the solenoid energizes. The energized solenoid allows the driver to move the shift lever out of the PARK position. When the brake pedal is not applied, the BCM turns the control voltage output of the shift lock control solenoid OFF, de-energizing the shift lock control solenoid. When the transmission is in the PARK position, the de-energized shift lock control solenoid will prevent shifting as the lever is mechanically locked in the PARK position.

During remote start operation the BCM will de-energize the automatic transmission shift lock control circuit, locking the shift lever in the PARK position

Automatic Transmission Shift Lock Control Description and Operation (RPO T4Z)

The Automatic Transmission Shift Lock Control System is a safety device that prevents an inadvertent shift out of PARK when the engine is running. Vehicles equipped with the Safety Belt Assurance System (RPO T4Z), the driver must press the brake pedal and have the driver and if present, the front outboard passenger safety belt(s) buckled before moving the park lever out of the PARK position. The system consists of the following components:

- The Automatic Transmission Shift Lock Solenoid (serviced as the Automatic Transmission Shift Lock Actuator)
- The Body Control Module (BCM)
- The Engine Control Module (ECM)
- The Inflatable Restraint Sensing and Diagnostic Module (SDM).

The BCM controls the voltage to the shift lock control solenoid though the shift lock control solenoid controlled voltage circuit. The following conditions must be met before the BCM will supply voltage to the shift lock control solenoid:

- The ignition is in the ON position.
- The ECM sends an input via GMLAN serial data to the BCM when the Transmission Control Module (TCM) indicates the transmission is in the PARK position.
- The BCM receives a brake applied input from the stop lamp switch.
- The SDM determines if the occupied driver and front outboard passenger, if present, have their safety belt(s) buckled.

Since the shift lock control solenoid is permanently grounded, the BCM supplies voltage to the automatic transmission shift lock control solenoid, releasing the mechanical lock on the shift lever as the solenoid energizes. The energized solenoid allows the driver to move the shift lever out of the PARK position. When the brake pedal is not applied, the BCM turns the control voltage output of the shift lock control solenoid OFF, de-energizing the shift lock control solenoid. When the transmission is in the PARK position, the de-energized shift lock control solenoid will prevent shifting as the lever is mechanically locked in the PARK position.

During remote start operation, the BCM will energize the shift lock control circuit, locking the shift lever in the PARK position.

Vehicles with the Safety Belt Assurance System, will display the following message “Shift Locked, Buckle Seatbelt” if the driver or front outboard passenger, if present, and safety belt(s) are not buckled. The vehicle will not shift out of PARK. Buckle the safety belt(s) to unlock the shifter.

This system may not allow the vehicle to shift out of PARK if an object such as a briefcase, handbag, grocery bag, laptop, or other electronic devices is on the front outboard passenger seat. If this happens, remove the object from the seat or buckle the safety belt.

Vehicles with the Safety Belt Assurance System, will display the following message “Shift Unlocked, Brake To Shift” if the system times out and allows the vehicle to be shifted out of PARK after 30 s following brake applied.

The Safety Belt Assurance System can be disabled with a calibration file update in the K36 Inflatable Restraint Sensing and Diagnostic Module using SPS. This procedure should only be done to help resolve a customer dissatisfaction issue.